

OUR HOMES
AND
THEIR
ADORNMENTS

The title is rendered in a gold, ornate, blackletter-style font. The word "OUR" is on the first line, "HOMES" on the second, "AND" on the third, "THEIR" on the fourth, and "ADORNMENTS" on the fifth. A large, decorative initial "O" is positioned to the left of the word "ADORNMENTS". Inside the "O" is a detailed illustration of a two-story house with a chimney, surrounded by trees. A quill pen is positioned diagonally across the "O". To the right of the quill, a small oil lamp with a flame is depicted. The entire title and decorative elements are set against a dark, textured background.

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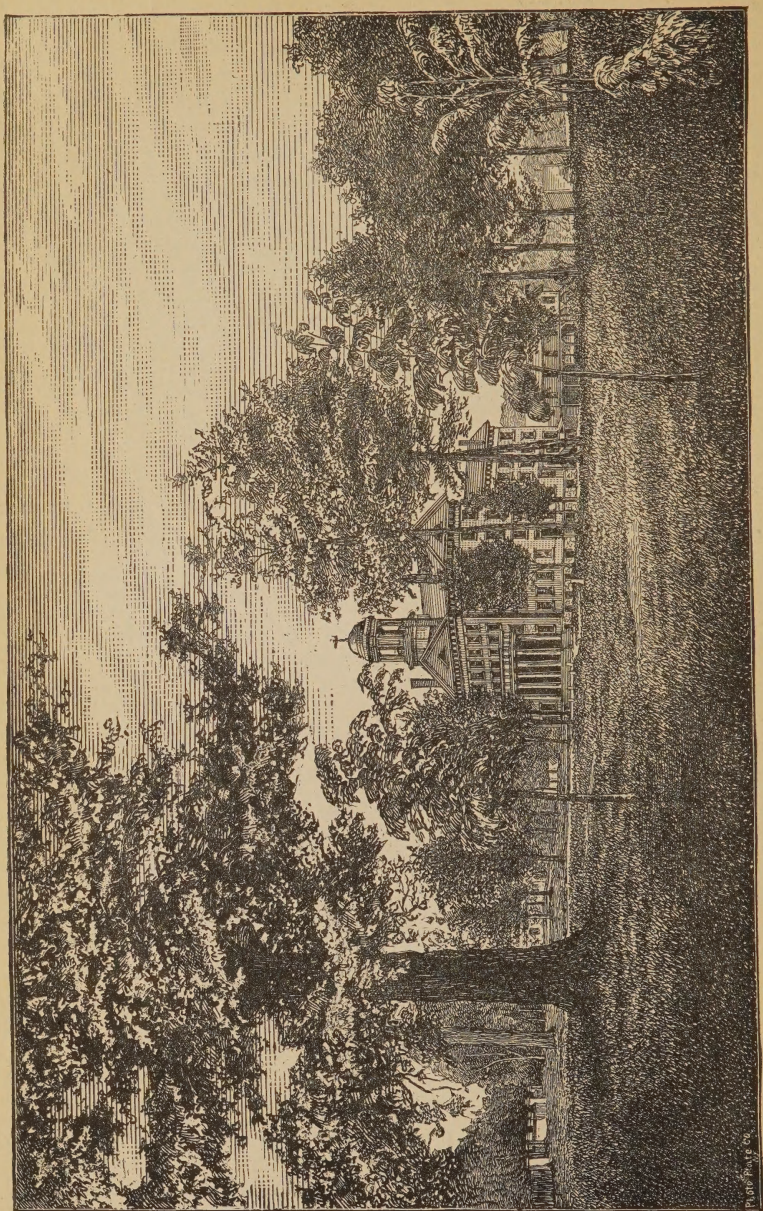
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OUR HOMES

AND

THEIR ADORNMENTS;

OR,

How to Build, Finish, Furnish, and Adorn a Home,

CONTAINING

PRACTICAL INSTRUCTIONS FOR THE BUILDING OF HOMES, INTERIOR DECORATION,
WOOD CARVING, SCROLL SAWING, HOUSE PAINTING, WINDOW HANGINGS,
SCREENS, CURTAINS, WINDOW GARDENING, INCIDENTAL DECORA-
TIONS, DECORATIVE ART NEEDLE-WORK, AND ECONOMIC
LANDSCAPE GARDENING; TO WHICH IS ADDED A
HOUSEHOLD COMPENDIUM OF NEW, PRAC-
TICAL AND VALUABLE RECIPES,

THE WHOLE BEING DESIGNED TO MAKE

HAPPY HOMES FOR HAPPY PEOPLE.

By ALMON C. VARNEY,

Supervising Architect, etc., Detroit, Mich.,

ASSISTED BY THE FOLLOWING CORPS OF SPECIAL CONTRIBUTORS:

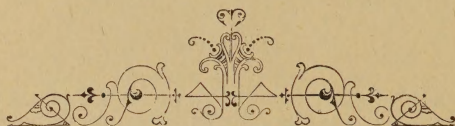
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of *Interior Decoration*; CHAS. E. BENTLEY, Author of *Decorative Needle-
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scape Gardening, Maine Agricultural College.

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ILLUSTRATED.  
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JONES BROTHERS & COMPANY,

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 PUBLISHERS' NOTE.



N submitting this work to the public, the Publishers think it not amiss to state that the contents have been carefully criticised and reviewed by competent and conscientious critics.

To the authors of the various departments much credit is due for the successful manner in which they have treated the topics assigned them.

For other favors and information not otherwise available special thanks are due—

To Mr. CHAS. E. BENTLEY, Designer and Manufacturer of Decorative Art Needle-Work, New York; Messrs. PHILLIPS & HUNT, Publishers of the "People's Cyclopedic," New York; The American Encaustic Tiling Co., New York; Messrs. WARREN, FULLER & Co., Manufacturers of Artistic Wall-Papers, New York; E. T. BARNUM, Manufacturer of Crestings, etc., Detroit; Messrs. MILLS & BARKER, Artistic Furniture, Detroit; A. H. SHIPMAN, Fret-Saw Manufacturer, Rochester, New York.

The Publishers take no small degree of pride in presenting a work which furnishes so many valuable suggestions on the subject of Our Homes and Their Adornments, and they can but wish that it will greatly assist in making many **HAPPY HOMES FOR HAPPY PEOPLE.**

PREFACE.



HAT grand old Saxon word, HOME, has for ages held a peerless place wherever the English language is spoken. And thus do we find it, under every zone, embalmed in song, cherished in the memory, and enshrined in the heart!

Too much, therefore, can scarcely be said on such a theme, nor too devoted a service rendered to such a cause. And knowing as we do how largely, in this country, *Home Life* influences both the individual and the State, we come to present the offering of Our Tribute in the imperishable form of A BOOK, for the acceptance and appreciation of a *Home-loving* people!

The object of this, our labor, is to link—as in a *marriage tie*—this venerable and comprehensive word “HOME” with that other word of classic mold, but of modern application,—“ADORNMENT.” And with the whole-hearted enthusiasm of “*match-makers*,” we sincerely hope and believe that they will be found to be not “unequally yoked.”

We are of the opinion that no attempt at "*an alliance*" of this nature has *ever before* been so wisely planned and so successfully consummated. It only remains, therefore, for us to bid a universal welcome to the *Bridal!*

The homes of the past have been as redolent of virtue and affection as can be claimed for those of our own day; but the age has advanced in all those accessories which give to modern life its charm, and for a "*Home*" now to be without its "*Adornments*," would be a return to a primitive condition that would ill accord with the scale and quality of social existence everywhere around us.

The volume here presented comprehends and supplies, in its completeness, this felt need eminently more than any hitherto offered to the public. The departments it covers embrace the whole domain of "*HOME AND ITS ADORNMENTS*," from the most enlightened, cultivated, and reliable sources possible.

Under the firm belief that "a thing of beauty is a joy forever," we have reason to expect that our Home Life will become radiated with a brighter glow, from the Alliance of *Adornment* with *Domesticity*; while the influence of such elements, acting as a Kindergarten, will daily and hourly impress on both young and old its "*Object-Lessons*" of instruction with ever softening and refining influences.

Economy, which holds so prominent a place in our modern household administration, finds a most signal recognition in the work here presented. Recipes of *great practical value*, are lavishly scattered among its pages; while the *Useful*, as well as the Ornamental, has in each Department received the most particular attention.

"The least said, the soonest mended," is a well-known proverb; and though we have no reason to fear "a breakage" among any of the numerous articles for use or ornament cabinetted within the binding of this volume, yet we would on no account exhaust the reader's patience with a long Preface. Every new venture expects the favoring breeze of popularity to carry it safely into port. And if our numerous friends will only be kind enough to judge of this work by its merits, we shall then have no fear for the results.

THE PUBLISHERS.





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PART ONE.

PLANNING, ERECTING,
AND

FINISHING HOMES.

WHEN we mean to build,
We first survey the plot, then draw the model;
And when we see the figure of the house,
Then must we rate the cost of construction:
Which, if we find outweighs ability,
What do we then, but draw anew the model
In fewer offices; or at least, desist
To build at all.

—KING HENRY IV., PART II, ACT I, SCENE 3.

CHAPTER I.

GENERAL CONSIDERATIONS.—IDEAL HOMES.—RENTING AND
PURCHASING.—CONTRACTING THE WORK.



HOME.—This word to most of us possesses deep significance. With what reverence do we look back to the home of our childhood, now embalmed in memory as our heart's dearest treasure! Not a home, do we mean, surrounded with all the luxuries of life, but one, even though humble, where there was "plenty and to spare." The old home, with father and mother and its stores of plenty, did not quite content us; we felt a spirit of unrest taking possession of us.

Then we were unable to appreciate our blessings as we do now, looking back to them in the light of a riper experience. Points and objects that failed to attract us then, are now so many shrines at which we do homage, and as we achieve success or meet failure, our minds revert to the old home with its precious memories.

Our ideal home is not like the home of our youth; it is one that is to meet the wants, as far as our means will allow, of our own households, enabling us to enjoy that com-

fort and independence that can never be appreciated by those whose thought is of to-day, and who let the morrow care for itself.

To our mind there is nothing more ennobling than the united efforts of young married people directed to the acquisition of a home. They may be, as the majority are, possessed of limited means; but good health, temperate habits, and frugal saving of earnings, though small, will enable them to purchase or build a cottage and adorn it. There, when the cares of the day are over, beneath their "own vine and fig-tree," they can recount the successes of the past, and plan for the future.

The work done by our own hands, and the money our own sweat has earned, are to us a source of peculiar pride and satisfaction. So a home, earned by the concerted efforts of husband and wife, will possess a charm far greater than if they come in possession of it by heirship. More precious because of its association with their struggles with necessity.

The great trouble is that the young people of to-day are not willing to commence so far down the scale; they cannot be content with such an humble beginning as their parents made; and instead of commencing a home soon after marriage, they rent and furnish a house in extravagant style, often spending enough in furnishing to pay for a home of comfortable size. All this, we remark, is done with the plea of economy. They promise to build when they have means enough. We who have traveled the path so often, can see their mistake. A false pride has prevented them from accepting humbler quarters, from whence in a few years they might have gone out to wealth and even opulence.

How many instances have we met of those who have rented and fitted up the house of a close landlord, hoping at no distant day to be able to pay for a home of their own; but month after month, and year after year, the rent bill absorbs the savings, until they have paid out as much as would be required either to pay for a house, or secure one in such a manner as to be gradually brought into their full possession by frugal savings and payments.

In our opening chapter we cannot forbear offering a word of encouragement to persons of small means seeking homes, for we know well, from actual experience, what small earnings, carefully saved and judiciously expended, will do in this direction.

One need not have too much fear in incurring a safe amount of debt on a home when there is a constant saving going on, and a gradual reduction of the principal can be made. We wish, however, to caution all against one serious mistake,—many times the plan of the house and cost of the same are not definite enough, and the home that was intended, under no circumstances, to exceed in cost the sum of fifteen hundred dollars, is found very incomplete when that amount has been expended, and it is found, when too late, that the cost will be fully two thousand dollars.

It is then found that the loan, which could have been secured on the premises for the first amount named, at a low rate of interest with easy terms of payment, will be hard to obtain for the larger amount; and should the loan be secured for this last amount, it will necessarily be at a higher rate of interest; hence the risk of paying off the debt is greater.

Misfortune, dull business, or sickness, may curtail the

earnings, and the result will be inability to meet payments of interest and on principal, and the ghost of foreclosure of mortgage haunts the homestead. After a struggle, perhaps of many years, the unfortunate owner is obliged to give up, and with wife and family seek more humble quarters with monthly rental.

We present this picture to place all of small means on their guard. Be sure not to build too large; know what the cost to *complete* the home will be before commencing. It is better to live in a rented house than to go through the anxiety, annoyance, trouble, and disappointment of almost paying for a home and then seeing it taken from you, your labor lost, and your earnings swept away.

This state of affairs need not occur, except in rare instances, if anything like a reasonable amount of forethought and good judgment is exercised. The usual way, and the best way, for people of only moderate means to build anything of much cost, and be sure of a knowledge of the sum total when completed, is to *contract the work for a given sum*; and if for a house of not much pretension, the better way is to have a plan, if possible, from some architect of known ability and of a good reputation. He can embody in his plan even every little thing about a house, from a sliding door down to a set of drawers in the kitchen pantry, or cleats and shelves in the closets, thus obviating the risk of the builder's never-failing desire to run up a heavy bill of "extras" on the completion of the job, as too many of them try to make it larger than it should be for the amount of work done.

In the larger cities and towns where the services of a good architect can be had, it is always advisable to employ

one, at least to do the planning and preparing of the contract and specifications for letting the work, if not for superintending. A good set of plans and specifications, carefully executed, can be followed even by a man comparatively unaccustomed to such things, with sufficient precision to discover any great variation the contractor might try to make in the building. But for buildings of much pretension there is no better evidence of the benefits of a good plan and superintendency of the work from day to day as it progresses, by a competent architect, than the fact that in large cities there are men known as "building speculators," who do not build without definite plans and usually superintendents. But for the majority who will read this book, and whom we hope in a measure to assist, in the smaller cities and towns, villages and country homes, it is not always easy to get the professional assistance required, and for their benefit we wish to offer a few suggestions, before proceeding to the discussion of other matters and the description of the accompanying plates.



CHAPTER II.

HOW TO PLAN A HOUSE.—HINTS AS TO HOW TO PROCEED.
—KINDS OF LUMBER TO USE.—SUGGESTIONS WORTH
NOTING.—PAINTING.



IN the first place, we assume that a small cottage is to be built. The only one to apply to in the village is one of the two or three carpenters, who perhaps knows little of the real conveniences of life that may be introduced into the small cottage, or who does not seem to rise above the one thought that a certain number of rooms after some stereotyped pattern he has been familiar with, is all that is required. We do not mean to say this is always the case, for sometimes the carpenter exercises a good amount of ability in the arrangement of rooms in the small houses that come under his hand.

If you cannot secure the help of a competent carpenter, you should commence by carefully calculating the amount of room you must have, examining the houses of some of your acquaintances, and comparing sizes and arrangement of rooms; and if you can refer to some book of plates and

arrangement of space and simple forms of exterior finish, such as this work is intended to furnish, much assistance can be obtained in designing your house.

Outline to a certain scale, if in ever so crude a form, the rooms, with the dimensions marked on the same, also giving outside measure of the whole building.

Locate the doors and windows where they will give the best light and most room for the arrangement of the furniture, when the building is completed. How many times these two important things—doors and windows—have, for the want of a little forethought, been so arranged that the sunlight cannot be admitted as it should be, or in the position to fail to secure the ventilation that might be easily obtained in the summer time by open windows.

A bed room should, if possible, have two windows; and if on a corner, one on each of the two sides, thereby securing a draft of air in the heat of the summer, which could not be obtained by one window, or two on the same side. The doors should be located as far as possible from the corners of rooms, and so as to come opposite the windows, that they too may help to secure a thorough ventilation in the heat of summer.

Now from the specifications given in succeeding chapters can be found something bearing upon almost every point, so that the amateur can get up specifications and contract that shall quite completely cover all necessary particulars on a house of the kind under consideration. The elevation will have to be determined, the height of posts, and distance between ceiling and floor, and height of second story. This is meant to be a perfectly plain story-and-a-half cottage, devoid of much ornamentation.

Now from the carpenters who are to figure on the work, you can discover any gross error you have made in your terms or description of things. This is supposing you do not have an average good carpenter to apply to for assistance in making the plans and specifications; but most carpenters are capable of studying out floor plans, and making out specifications in some form or other; and in case you want to build a house similar to the one we have been discussing, and you apply to a builder, he will, under your directions, prepare a floor arrangement and specifications, with the understanding that he is to compete with whoever else in his line you may deem it proper to call in; and if you do not award him the job, you are to remunerate him for his sketches.

Now with the aid of what you will find in succeeding chapters of this work, you can carefully read over his specifications and compare them with those we have given, and see where omissions have been made by him, or description of particulars left incomplete; also, where the quality of material is not what it should be.

By referring to the chapter containing the estimates of quantities of the different forms of building material, you can ascertain very nearly the different amounts needed in constructing your house. For instance, brick that are the usual size, 2x4x8 inches, require 22 to the cubic foot, or in building a common chimney 16 inches square, it will take 30 brick to the foot in height. Thus you will find in this work all the different methods of estimating buildings, commonly used by builders.

These will all be of assistance, particularly in country places. They will be of special value to the farmer, whether

he is erecting a house, or some of the many different kinds of farm buildings, where usually all materials are furnished and the labor contracted by the day to execute the work.

He commences in the fall, after farming work is well out of the way, and determines what he wants for a building, and the size of the same, cutting from his own forest and hauling to the mill the logs to cut out all of the different dimensions and kinds of materials, which should then be piled up to dry.

All material intended for finishing, inside and outside, such as flooring, clapboarding, or weather-boarding, casings and moldings, should be thoroughly dried out and seasoned, so that it can be matched, planed, re-sawed, and got into shape for putting up. In fact, all timber should be thoroughly seasoned, for, if put up before dry, it is always "getting out of shape," as it is termed, warping and twisting badly, doors and window-frames opening joint, the plastering cracking, frame settling, and openings appearing under the base-boards.

All of this may be caused, even where the finish is dry, by putting in the framing when it is wet, and covering it up before it has time to dry, which it will do after fires are in the house, and produce the results above mentioned. Therefore, if the framing lumber cannot have time to be dried in the pile, it should be allowed to stand three or four weeks or more in the building, before plastering.

All floor joists for the second floor should be sized to a uniform width, and all outside and inside studding should be treated in the same manner; then the walls will come even, and there will be no trouble by the variations in widths of studding. Any kind of lumber will dry sufficiently in the

open air, piled up openly with free access for the air to pass through, except in case of that used for doors, sash, and blinds, which must be kiln-dried after being dressed; or as is usual with doors, *when framed together before gluing*, placed in the kiln for a few days. Pine lumber for doors, sash, and blinds should be soft, as that which is hard and glassy, or what is known as Norway pine, will warp when the door comes to be used. For painted work it don't matter so much if some sap is used on inside finish, unless the work is to be painted white, when it would take too many coats to cover the dark colors of the sap; and if any knots are used, either inside or out, they should be thoroughly covered with shellac before painting, as it will help to prevent the pitch coming through. If the wood is finished in the natural color of the pine, it must first be made perfectly smooth with sand-paper, if a good job is wanted, and then given one coat of hard oil finish. When dry, over this spread two coats of good copal or coach varnish; this, when dry, makes a hard, bright, glossy finish, easily kept clean. The wood for the work must be sand-papered *with* the grain, as any cross rubbing will, when the work is done, show scratches on the surface.

When we can have our way, we never paint anything white. The old-time custom, in many parts of the country, of painting the house white, and outside blinds green, we know has a strong hold on the popular mind; but we think if a little attention is given to the subject, and pains taken to see some houses that are painted in one or more modern colors, most of the adherents to the glaring white and brilliant green will yield to the more harmonious shades that are in better accord with the surroundings.

These criticisms apply with equal force to the subject of inside finish. We never would paint anything white. Paint each room in one or more colors of delicate shades, neutral tints, with nothing having a gaudy appearance, but presenting a quiet harmony in tone and color with the furnishing of the room. In papering, the color of paint and tint of paper should always be considered, so that they may blend well. (See Department of HOUSE PAINTING.)



CHAPTER III.

ORNAMENTATION.—APPEARANCE OF A HOUSE.—SECRET OF ATTRACTIVE BUILDINGS.—THE PLACE TO PUT ORNAMENTS.—LITTLE EXPENSE WITH GOOD RESULTS.—THE FRONT ENTRANCE.—PORTICO.—CORNICE.—GABLE.



THE exterior of a house built of wood can, at a small cost over what the difference would be for a plain one, be made attractive and even beautiful in outline and effect; it should, however, be borne in mind that the requirements to produce a fine artistic effect, are not, by any means, in the amount of ornamentation put on, but in the kind and in the adaptability of the ornaments of the building. In other words, what is put on for the purpose of ornamenting should be in the right place, and look as if it belonged and had a purpose there. Many times this is overdone, and the building when completed looks more like a thing constructed upon which to nail tawdry or illy-designed ornaments, than a harmonious whole, with each part blending with the other, and making an object that will attract attention, and challenge admiration, and upon which the eye lingers

spell-bound, while the effect on the memory is of something beautiful.

All this is very simple of explanation. Sometimes we look upon a house that has this attraction for us, and when we come to think over the amount of ornamenting done and the cost of the same, we are almost astonished that so *little* could attract attention; but it is simply the arrangement of the design of the building that produces this effect.

THE FRONT ENTRANCE, the portico, and the entrance doors should, we think, be the place to show the most taste in ornamentation. *This* is the point that must command the most marked attention. Let the outline be easy and graceful, the steps broad, and, where there is plenty of room and the expense can be borne, curve out in an easy manner. Nothing helps to make an inviting entrance like broad, easy steps.

The front doors, we think, should be a model of outline, and the ornamentation in good taste. This can be done without much, if any, carvings. We think that most of the costly doors often seen, covered with carved ornaments, are anything but beautiful, and they often look burdened with unmeaning intricacies of the gouge and chisel, where something else, in rich design of form and outline, would have been far more attractive.

The portico, again, an important feature so commonly used now on city and town houses, possesses the same characteristics, that is, the same amount of work looks either good or bad according to the taste and skill displayed in the forms of finish, the dimensions of outlines, caps, etc. A column too large in proportion, may spoil the good effect

of an otherwise fine portico; and the same thoughtfulness must govern the entire work.

The windows, the frames, caps, and sills must, when completed, form an outline that is easy and symmetrical, whatever the design may be. For instance, a window with a neat cap, and the sill cut short off, with nothing to relieve it on the side, or any corbel under the sill, looks ungraceful. It matters not how fine a cap it may have, there will be something lacking.

Cornices and gables, again, are open to the same criticism. A cornice may be too broad for the building, or the roof too steep for the width of cornice, either of which produces a strange effect upon the building. The gable can be ornamented in a multitude of ways that are most pleasing to the eye, or the vagaries of the jig and band saw may cumber it down with trash that is most repulsive to look upon.

We have briefly touched upon these points, endeavoring to show where beauty in the exterior of our houses may be had, and that, too, in many cases without increasing the cost, if we only use good taste, skill, and fair judgment in the designs.



CHAPTER IV.

BUILDINGS OF WOOD.—THEIR ECONOMY.—KINDS OF WOOD TO USE.—ERECTING THE BUILDING.—DIRECTIONS THEREFOR.—RENDERING WOODEN DWELLINGS WARM.—BACK PLASTERING.—HOW TO MAKE A WOODEN DWELLING NEARLY FIRE PROOF.



IN this country with its almost exhaustless resources of forests, including the finest assortment of woods for building found on any continent, the choicest kinds can be procured at reasonable figures.

The woods best adapted for the framing and finishing of all exterior portions, as well as for the superstructure itself, are PINE, SPRUCE, and HEMLOCK, their abundance, improved methods of manufacture, and moderate cost, rendering them the most desirable woods for houses of moderate cost. As far as health is concerned, we think there can be no house better adapted to its promotion than one built of wood. However, the obstacles to health in brick and stone buildings are not insurmountable, and a full discussion of these materials will be found in another chapter.

A building of wood cannot well be made as warm as one of brick or stone, but can, in the following manner, be made warm enough for all practical purposes. For an ordinary eight-room, two-story building we will imagine three rooms and a hall in first story, the same number on the second floor, and a rear part with kitchen, pantry, and back staircase, and cellar under this, and on second floor of rear part a servant's room and bath-room. The sills should be eight inches square, the floor joists for first floor two by ten inches, and framed into the sills even with the tops of the same, so that when the floor is laid it will just come evenly over the sills, to prevent rats and mice from gaining an entrance, for these pests are one of the most annoying disadvantages in most wood dwellings, as they are generally constructed.

Now proceed to put up the outer walls of the house of two by four scantling, with ledger boards one by five inches cut in for second story floor joists to rest upon, and plates doubled and spiked down on top of scantling for rafters. Cover the outside of frame with good, sound boards, dry, or nearly so.

The frame should either be dry, or after being put into the building should have a chance to dry before plastering is put on. Boards should be planed, as you cannot make them lay down even with each other if of uneven thickness. On the inside, between the outside studding, nail on furring strips one inch square with the face one and a half inches from outside of studding, and to these lath in the ordinary manner, and put on one good coat of rich, brown mortar; this is known as *back plastering*. We know of no way so well adapted for making a warm house as this.

If your frame is not dry, or if studding is wet or green, they might shrink and leave small crevices for air between furring strips and studding. We might observe right here that it is of vast importance to have the timber for floors and partitions well dried, either for wood buildings or brick and stone.

This back plastering will cost from ten to twelve cents per square yard, including lathing; and considering the great benefit of a warm, dry house, it should be put in most good houses at least. This arrangement leaves an air-space next to the outside boarding, and one next to inside plastering, thereby effectually excluding dampness and wind.

Another thing that should be done to help overcome the disadvantage of wood buildings, as compared with brick and stone, is to render them comparatively safe from total destruction by fire. As usually constructed, walls are so many flues on the outside, leaving free access for draughts of air to fan a fire and spread it with lightning rapidity from cellar to garret, so that when discovered it is beyond control.

Such walls also allow vermin to pass up and in between the ceiling and floors, if they once get in below. We overcome this danger, in a measure at least, in the following way: On the level of the second floor, either run the flooring in between studding, or nail or cut in horizontal pieces between each studding, and over these fill in a couple of inches of mortar or a course of brick laid in mortar. This closes the passages between plaster and boards effectually, so that there is no draught should the house catch fire by any means on an outside wall. How many times this arrangement alone would have kept a fire burning so slowly

that it could have been discovered and put out before it had worked its way up to the roof. This is one of the precautions that can be taken to reduce the risk of fire in wooden buildings. Still, most of our brick dwellings, so far as their internal construction is concerned, are exceedingly inflammable; and if a fire is once well under way, it usually ruins everything inside.

SHEATHING PAPER.

But to return to our wood house. On the outside walls we would place one thickness of tarred building paper with the edges lapped, and run it under all finish, as corner boards, cornices, window and door frames, etc. This paper now costs two and three-fourths cents per pound, and comes in rolls of about fifty yards each, on an average, so it will be an easy matter to find out about the amount wanted.

Now these two things—building paper and back plastering—should be used where a good house is building, but on some cheaper houses it may not always do to incur the expense. The usual plan here, and for most parts of the country, is to paper only in the manner directed above; but we are sure, that for a good house, it will pay to back plaster also.

The roof, if of shingles eighteen inches long, should be laid five and one-half inches to the weather, and should be laid on roof boards with open joints one and a half inches. This is much better for the roof than to have the boarding laid with close edges, or matched, as when the shingles are wet they absorb a large amount of moisture, and are liable to swell and injure the roof. Where roof boarding is open, a better circulation of air is obtained and the shingles dry

out quickly, while on the other hand, with boards laid close, the shingles have to dry from the outside surface entirely, or nearly so, and require more time, thereby causing a quicker decay of the wood.

Shingles make a good roof, as almost every one knows; and considering their cost, they are not liable to be superseded by anything else for cheap wooden buildings. The slate roof, of course, is much better, both in appearance and durability, but its cost must exclude it from general use on wooden buildings of moderate cost while shingles are so cheap. The best shingles ever made are the old-style hand-shaved, but very few are now made. By using a little care, in laying sawed shingles, to turn down the brash way of the grain, the shingles will last much longer.

CLAPBOARDING.

The outer walls are usually covered with clapboards of pine, spruce, or, sometimes, basswood; in this locality, usually pine, and this is the best. These boards are made from six-inch strips, one inch thick as they come from the mills; after being allowed to dry they are planed both sides, and jointed, and run through a re-sawing machine, making two clapboards out of each inch piece. Clapboards should not be laid to exceed four and one-half inches to the weather, and nailed once in twelve inches. In many parts of the Eastern States, particularly Maine, Vermont, and New Hampshire, large quantities of spruce clapboards are made from small, straight trees which are cut in four and six-foot lengths, turned in a lathe and then sawed toward the center, the thin edges in, and thick edges out. These make a very good clapboard, but great care must be used

in putting them on, owing to their liability to split. Some painters claim that on these boards paint will not stick as well; still, in our experience, where dry clapboards have been painted with pure white lead and linseed oil, it has not come off.

Basswood is used in only a few localities where the wood is plenty; if put on dry, and thoroughly nailed and painted without getting wet, it makes a very good covering. Clapboards are undoubtedly the best covering for outside walls of wood buildings. Boards ten inches wide, running perpendicularly and battened at the joints, make a good outside covering.

Now-a-days we sometimes venture upon the grounds of our ancestors by shingling outer walls, but usually for effect only, in gables, where a few shingles laid in a panel or above a belt course, cut in some attractive pattern and painted in some rich or warm color, have a pleasing effect. The great disadvantages in the protection of exposed surfaces of wooden buildings, render the material less desirable for certain classes of residences, and there is not the least doubt that less perishable materials are preferable, other things being equal.



CHAPTER V.

DURABLE FLOORS.—A BETTER PLAN FOR FLOORS SUGGESTED.—OPEN JOINTS AND HOW TO PREVENT THEM.—INSIDE FINISH.—THE BEST WOODS AND HOW TO USE THEM.—PREVENTION OF SWELLING IN LUMBER.



PINE and spruce are the kinds used most for ordinary floors that are to be covered with carpeting. In the Middle and Western States, the flooring is matched and laid the first thing after the roof is on the building. In the Eastern States, a floor of cull boards, planed to an even thickness and unmatched, is laid as soon as the floor joists are in place, and this comes very handy to work upon during the process of constructing the walls, either in wood or brick buildings.

After plastering and other work of inside finishing are all done, and the base board in place, the last or upper floor is laid over the cull floor previously laid. The last floor is made of pine, or more commonly there, spruce, unmatched, the edges jointed, and the measure taken for each piece, which is cut in place and laid, commencing on either side of

the room and meeting in the center, fitting each end to a joint against base board. The last opening near the center is measured, and a piece fitted and sprung into place, making the whole floor tight. It is then lined off and nailed on both edges.

This makes a very good floor, though costing somewhat more than a matched floor. The edge of such a floor being *inside* of base board, if there is any settling it will not show an open joint, as in the plan of putting the base board *on* the floor, when any shrinkage will leave an opening.

In kitchens, this plan of laying the floor inside of finish is particularly good, as the floor frequently wears out in time, and has to be replaced, which can be done without disturbing other finish.

Hard-wood floors are much used, and those made from the following woods are desirable: White oak, hard maple, cherry, and ash, if straight grained.

In the Eastern States, much southern hard pine is used for public buildings and factories. This has a smooth, hard, glassy surface, and makes an excellent floor to stand the wear.

We omitted to mention the use of *matched sheathing* for outer walls, in connection with our remarks on outside covering; this is desirable many times for fronts in city or town; but in the way it is usually put on, horizontally, in many places, we think it serves a very poor purpose. If the sheathing applied in this way is ever so dry, the tendency is to produce leaks and rotten joints. The rain, beating against the wall, works into the joints, and falling in behind window-frames, many times causes leaks and swells open the joints of the sheathing, so that the appearance is anything but pleasing.

We frequently sheathe the fronts of houses, but we first board and paper outside in the usual manner; then we use perfectly dry matched pine, seven-eighths inch thick and two and a half inches wide (having it narrow lessens risk of shrinkage), putting it on vertically, and wherever it comes on a window cap, or roof, we turn the tin well up under. The reasons why this method is better are obvious. It cannot leak, for if any water should get into a joint, it runs out at the lower end, and the joints running vertically, the water will not have much tendency to get into them. Besides, this method looks better.

We have, in this city, known of many instances where the fronts of houses sheathed horizontally have leaked, and the owners have had them clapboarded to put a stop to the annoyance.

The best finish for all outside wood-work, as is well known, is pine. Nothing else, of the many different kinds of wood, possesses the quality of withstanding the storms and weather changes as does pine, when, of course, protected with paint.

All outside finish, so far as practicable, should be primed before being put into the building. We have found from practice that the moldings of columns, as they are fitted and cut for their respective places, should be hollowed out on the back, or heel, of the miter, and the joints painted one coat. A column made from dry pine, with *its* joints put together in the same way, will not show the joints of the capital and molded bases open, like many frequently seen on new work carelessly put up.

The cause of open joints is plain. The water striking the column and running down onto the capital and base,

thoroughly saturates them ; they swell, and if what is known as the heel, or thick part of the miter, has not been hollowed out as above, the outer parts are forced apart, leaving an ugly gap for the painter to cover up; if cut away, it can swell without forcing the joint open on the outer corner.

Pine is also mostly used for all kinds of inside finish in the ordinary class of buildings or houses. Whitewood, known in some parts of the South as poplar, is used to some extent where this kind of wood is plentiful, and being a soft wood, it is very easy to work; the surface finishes down smoothly, and takes paint well. Indeed, it gives a better surface for painted work than it is possible to obtain on pine, and there is no pitch to come through, and but few knots to be found in it. It is not abundant enough to compete with pine in all markets, and although there are very few knots or "shakes" to contend with, it has a way of checking in seasoning, from the ends, that causes a large waste to the consumer. These checks extend from one to four feet from either end, and we know of no way to prevent this. Having used a large amount of it in years past, we think there is none. Bass-wood, a pure, white, soft, pliable wood, fully as soft as pine, is much used for carriage and sleigh bodies, and indeed for almost any finishing that requires bending for form, where great strength is not demanded.

This wood takes on a fine finish, as may be observed by noticing the brilliant, coal-black polish on carriage bodies. It makes a very good inside finish, but must be well secured in place, wherever used, as it will, before being painted, quickly absorb moisture, and warp into all manner of shapes. It has never been used very extensively in cities

for inside finishing, its use being confined principally to certain localities where it is abundant and cheap, and where pine is not so plenty.

In the Eastern States the farmer, having trees of this variety in his forest, and no pine, cuts them into finishing lumber, and uses it to save the purchase of pine. Like whitewood, it is much used in cabinet work for drawers and backing of furniture. It resembles the whitewood in most respects, being free from knots and liable to checking in the ends during seasoning, but it is softer and whiter. The woods enumerated in the foregoing list comprise those most used for painted work on interior finish, save in California, where redwood is used very largely. This wood has the peculiar disadvantage of shrinking endwise of the grain.

In either of the two woods mentioned in comparison with pine, neither is so well suited for doors and sash, as they will warp, and must be secured in place to something solid. This is particularly true of bass-wood.

Whitewood is sometimes used for doors, but does not stand like pine; so when we consider the question of general utility, pine is really the best of all, and we know of nothing that retains its form as well. For inside finish, it should be got out some time before being put into the building, and kiln-dried either before or after working; and the best and only way anything like a good house should be finished, is in the following manner: The plastering should be put on around all doors, windows, wainscotings, and base, and all the plaster work should be thoroughly dry before the lumber for finish is taken into the house, as dry pine, taken into even a damp room and left for a few days, will absorb considerable moisture, and if

put on the walls before it is dry, it will surely open in the joints.

A very good plan, which we have seen used, is to give lumber for casings or architraves, a coat of shellac on the back side, which keeps the moisture, if there be any in the wall, from entering the wood.

For finishing cheap houses, the plan most generally followed, is to put on plaster ground for the base board only, and then put on the first member of the architrave around doors and windows, and finish the plastering to this, and after mortar is dry, to put on a *band molding*, as it is called, lapping over the casing and back onto the plaster, covering the joint between casing and the mortar. This plan answers very well for cheap houses, the only difficulty being that the finish first put on will swell up by contact with wet mortar and cause open joints, which will have to be filled with putty by the painter.



CHAPTER VI.

STAIR CASES.—DIRECTIONS FOR BUILDING.—NEW STYLE OF
BANISTERS.—REAR STAIRCASE.—HARD WOODS.—BLACK-
WALNUT.—HOW TO FINISH A HOUSE IN HARD WOOD.
—VENEERING HARD WOODS.



THE staircase in the better class of houses should not be built, save the rough carriages, until after plastering is completed and dry, for the reasons before stated. The “treads and risers” for all good stairs should be ganned, or housed in, to back stringer, as the term is used; and where the face stringer is cased up or made what is known as a close stringer, they should be housed into this also, and these grooves should be cut on a bevel, and wedged and glued in place solid and nailed. In the corner, between the stringers, a small, square, pine block, some six inches long, should be glued in against “tread” and “riser.” This holds the stairs, or “treads” and “risers,” solidly together, and prevents the squeaking so often heard when going up and down many apparently good flights of stairs. All kinds of wood used for inside finish are used in stair work.

Until within a few years, the post at foot of stairs, or newel post, banisters, and rail have been made from black-walnut, except in the more pretentious houses, where mahogany is sometimes used. But at the present, in the East, very little black-walnut is used for stair work, ash, oak, and butternut, being substituted. We have now, in ordinary houses even, broken away, in a measure at least, from the old-style turned newel post and banister, and in their place you find a square post for a newel, ornamented in a simple and pleasing manner on the base and shaft, with a cap formed in a graceful outline to the top, for a gas-light stand, or *candelabrum*, or if this is not wanted, an ornament of wood. On the side of staircase, in place of the banisters is found a neat design for a series of cut panels, made quite open, so as not to look too "boxey," and this surmounted by the rail.

If there is room in the arrangement to turn the stair once, at least, when part way up, on a *level* landing, with a square angle post at the corner, the effect is good. The level landing of course takes a little more room. An ordinary flight of stairs can be made in a neat and simple design, something after the plan stated above, at a cost very little more than the old style, and it looks very much better.

A window of stained glass, over a staircase, or at a landing part way up, gives a very pretty effect of color in the hall below. Rear or back stairs are not always housed in the stringer, but in a good house it is better, and there should never be over three "winders" in turning a corner, as when more are used it renders the steps so narrow that a person going down is liable to fall.

In building, always bear in mind that back stairs are

used as much by nearly all the occupants as the front stairs, and therefore as much care should be taken in their construction.

KINDS OF HARD WOOD GENERALLY USED IN INSIDE
FINISHING, AND THE MANNER OF USING AND
APPLYING THE SAME.

The following constitute the principal kinds of native hard woods used: Black-walnut, black or brown ash, butternut, white ash, white maple, white oak, red oak, red cherry, and sometimes birch and beech, but not to any great extent. The days of black-walnut are already numbered for lavish use in finishing buildings, and even for furniture. The consumption of this beautiful wood in the last ten years has been so great that the scarcity now felt is causing the price to increase constantly; and in a few years, at most, it will be used but little, even in furniture, and that of the most costly kind. Although it is an elegant wood, and better adapted for furniture, we think that the finish of our houses and public buildings loses nothing by the substitution of the lighter hard-woods in its stead.

Spending several weeks recently in the cities of New York and Boston, and visiting many fine houses as well as public buildings, the author observed the general absence of black-walnut finish even among the opulent. In the West, where we can obtain it at a lower price than in the East, we still adhere to it. Although, in our own practice for the last four years we have been in favor of using light, hard-woods, exclusive of any trimming up with black-walnut. We have found, in the majority of cases, that the prejudice in its favor is so strong that our patrons would overrule our preference, and have the black-walnut.

In the last two years we have finished a few houses in light wood, and the indications are that we shall now soon follow our Eastern friends in its use. The light woods give a welcome, bright effect to an interior, their grain, when finished properly by the painter, standing out clear and beautiful. A room finished with light woods, in our opinion, presents a more cheerful appearance and has nothing of the gloomy effects produced by darker woods. Our furniture generally being dark, the variety of upholstering usually produces all the contrast required for effect without the use of walnut finish.

The author has now in process of construction a residence to cost twelve thousand dollars, with finishing as follows: The parlor and sitting-room finished in butternut; the vestibule, front hall, and staircase, all black-walnut; the dining-room, library, and entire remainder of house, in red oak. The finishing of the hall and staircase in walnut was simply a compromise with the proprietor, who in the beginning was determined to run streaks of walnut all the way through the different rooms, but finally consented to the arrangement given above.

In the East, you can find beautiful staircases in light woods, and will be surprised at their beauty. There are, as yet, but few in the city of Detroit.

The first proceeding with all kinds of hard-wood is to get it thoroughly kiln-dried; and a good amount of care should be used, so that the planks or boards will not warp and spring while in the kiln.

In securing the best effect of grain, much depends upon the sawyer; the sidings taken off produce fine grain, and quartering the log through is a good way to show the grain.

In our judgment brown ash is one of the richest of our native woods; the pleasing variety of forms the grain assumes, especially the mottled or variegated color (sometimes called by dealers, "calico ash") is very rich, desirable, and much sought after for the Eastern market. Most specimens of this wood are of a soft, brashy nature, easily worked, and take on a fine, smooth finish when worked down, in consequence of which it is much used in furniture.

White oak is an exceedingly tough, hard-wood, and very difficult to work and bring down to a smooth finish. This can of course be done, but it costs a good deal in hand labor to accomplish it.

Red oak is less difficult to work, being more of the nature of ash, but tougher; the grain is finely marked in a variety of forms, and the red, bright color gives it a very fine, rich effect when finished.

White or hard maple is a very hard, bright wood, and very white (except the heart of the tree), used but little for finishing work, but more for floors, the grain being ordinary. Bird's-eye maple is much sought after for car work, and is sometimes used in houses.

Red cherry has a very fine grain, and a rich, reddish color, taking on a fine polish, and in some degree resembling some varieties of mahogany. It is now much used in the East for finishing staircases, dining-room wainscotings, etc., and is very beautiful for such purposes. It is also used extensively in the manufacture of school desks.

Some persons are led astray in regard to the difference in cost of finishing in hard-woods and pine; the price per thousand feet is about the same, but the difference in cost arises from the fact that there is always more waste in hard-

wood than pine, and that more hand labor is required to produce a fine job of joining in hard-wood.

Doors of hard-wood should always be made by veneering on pine. Make, first, a plain pine stile and rail door, and make the *panels* of the kind of hard-wood intended; then glue upon the pine frame, covering it up entirely, a thin covering of the hard-wood desired, one-fourth to three-eighths of an inch thick. When this work is dry, cut the desired moldings of the hard-wood, and secure them on the edges against rail and stiles, as in any other door. Such a door, if properly made, will stand without warping. The pine, being better to keep true than any known wood, makes an excellent foundation to hold the hard-wood.

Another plan in common use for making a hard-wood door, two and one-fourth inches thick, for instance, is to make two doors of equal thickness and glue them together, both being framed separately. When thus glued together, a door is much stronger and less liable to warp than one equally as thick made of a single piece of wood.



CHAPTER VII.

SOMETHING MORE DURABLE.—BRICK AND STONE HOUSES.—
THEIR COST.—VENEER BRICK AND STONE WORK.—HOW
TO PREVENT BRICK WALLS FROM SWEATING.—STONE
TRIMMINGS FOR BRICK HOUSES.



HERE is something in the word *stone* suggestive of stability; something that conveys the idea of endurance, solidity, and capability to stand the tempest, the wear of winter's ice and snow, and of summer's parching rays. This ability to withstand the forces of the elements, and to maintain intact in spite of these forces, renders stone the natural product of nature, and brick the offspring of man's genius, especially suitable for purposes of building, both for domestic and commercial use. And then it gratifies the natural vanity of a man to be able to erect a residence of such material as will last for generations, and serve as a land-mark of family history.

One great advantage of brick or stone work is, that when once properly put up, it requires but little outlay to keep it in good repair, while, on the other hand, a building of wood

must be looked after frequently, and repainted every few years, to preserve it from decay and keep it in good appearance. A brick house requires more care than stone, as the bricks, in time, become discolored, and require to be stained and penciled over.

Security from fire is another consideration in favor of stone and brick, houses of these materials being less liable to take fire from the outside; but when once well started inside, a fire will do as much damage to furnishings and contents as in a building of wood.

COMPARATIVE COST.

The cost of buildings of brick and stone, of course, is much more than of wood, being about twenty-five per cent more for brick and more yet for stone. The cost of stone mainly depends upon the locality of the quarry, the quality of the stone itself, the means of transportation, and the ease with which it can be worked.

As brick clay is found in almost every locality, the cost of brick depends simply upon the cost of labor, fuel for burning, and the relation of supply and demand. It may be well to state that quality depends much upon the methods and thoroughness of burning the brick. This matter should be looked to in the purchase of brick. Beautiful enameled brick of many colors are now made, but their cost is too great to bring them into general use, though for special purposes they give a pleasing effect.

VENEER BRICK AND STONE WORK.

A very nice plan for building what may be called a half-stone or veneer-stone house, is as follows: On the

completed foundation wall, back some five inches from the outer edge of the water-table, a frame, as for a frame house, is erected of two by six-inch studding in the usual manner, and then boarded on the inside; fill in from the outside five inches thick with brick and mortar against boarding, and on top of water-table, outside of brick and mortar, set with cement a veneer of sawed stone four inches thick, of convenient size, and anchor each stone to the studding with small iron hooks. So build up, fitting in window sills and caps, and finish with modern gothic roof, and the house is, to all outward appearance, of solid stone.

We can see no reason why buildings erected by this plan are not as durable as most houses. The wood is thoroughly protected, and if the foundation wall is well laid, no damage can arise from settling. We know of some such houses that have been standing for many years, and are said to be in a perfect state of preservation.

Brick veneer is made on the same principle. One four-inch course of brick is laid from the foundation to top of outer wall, anchored once in five courses, and the building is taken for one of solid brick. The framing for these should be quite dry, and rendered very strong by bridging.

This class of buildings, we think, should not be encouraged in city or town where houses are so compact, as in case of fire the whole wall may tumble down when least expected, burying the firemen under it. Being but four inches thick, such walls in reality furnish but little protection against intense heat from surrounding buildings on fire.

Houses of brick or stone are, in consequence of thick walls, much warmer in winter and cooler in summer than buildings of wood. The walls should be *furred* by fasten-

ing strips to them and lathing to these strips, leaving a *dead space* between the plaster and brick or stone. This keeps out the moisture, and prevents the annoyance of "sweating" walls. If the cellar of any house is not a perfectly dry one, put on one coat of good mortar overhead. This effectually prevents the passing of dampness from the cellar, and makes a warm first floor.

The modern brick houses of more elaborate finish are now trimmed with some of the many fine stones to be found in different localities. The contrast produced by the fine red of the brick and the quiet shades of the stone in sills, belting-courses, window and door caps, and the various other ways in which it may be needed, is very pleasing indeed. We think it desirable to lay the stone flush with the brick; this keeps it cleaner, and it stands better. Projecting belts and courses must drop off the water, which leaves soiled marks in its course.

When the foregoing facts are carefully weighed, we think that the majority will agree with us in saying that when it is intended to put over four thousand dollars into a house, it should be constructed of brick or stone, or both, if the locality is such that it can be done without exaggerated difference in cost.



CHAPTER VIII.

DESCRIPTIONS AND SPECIFICATIONS.—EXCAVATIONS FOR CELLAR.—MAKING STRONG FOUNDATIONS.—HOW TO MAKE A NEAT FOUNDATION OF BOULDERS.—CHIMNEYS AND FLUES.—HOW TO BUILD A CHIMNEY AFTER HOUSE IS COMPLETE.



DIMENSIONS.—Working plans should never be drawn to a scale of less than one-fourth inch to the foot, and the scale should always be marked prominently on the plans. The dimensions of all parts should be given, including size of rooms, height of stories, thickness of walls, pitch of roof, etc., etc.

EXCAVATIONS.—Depth of cellar should always be determined and stated in the plans. In ordinary houses the cellar, measuring from under side of floor sills, should be not less than seven feet deep, but in larger houses seven feet six inches is better, particularly where there are furnace or stove pipes traversing the ceiling in all directions.

Excavations should be made for all space indicated in foundation plans, and with lateral connections for sewer or

cess-pool as the case may be, or for gas-pipes. All earth not needed for the purpose of grading and leveling should be carted off as excavated. Excavation for cross-walls, footings, piers, or water pipes, should be done with the cellar work.

Provision should also be made for cistern, if outside of building, but we would suggest that it be built in the cellar if there is room, as it is much easier to get at for any repairs needed.

Overflow Pits.—Overflow pits from the cellar should be as remote as possible from the house, and never less than twenty feet. They should be at least four feet square and eight feet deep, and must not have any other water connection, save that from the cistern, there being too much risk from contaminating gases getting into the cistern from sewers, to take any chances of connecting waste-pipes from any other sources.

Vaults for Cess-pools should be placed as far from the house as possible, and must never be placed where there is an incline of the surface or strata toward a well.

Grading.—After all mason work is done, and all outside work on the building is complete, and cistern, vaults, drains, and pipes down, thoroughly level, grade, and smooth off the entire side, leaving the surface inclining from the house in the manner determined upon, with reference to slopes and incline.

MASON WORK.

This is of great importance; use care in the kind and quality of material used, and character of labor employed, which, if not sufficiently skilled, may, with ever so good materials, spoil the job through carelessness and ignorance.

If the above are not carefully looked after, we may find that the mortar does not adhere firmly to the walls, because too much sand, or sand too fine, is used, and thereby the work will crack or crumble under the strain of burden or rigor of climate to which it may be exposed, and many times become dangerous to life and property.

FOUNDATIONS.

If these and the cellar walls are to be of brick, and the ground on which they stand is firm, for ordinary two-story houses a footing should be made to commence on, twelve inches wide and eight inches thick, laid in mortar made from one part good cement and two parts of best quick-lime and the right proportion of good, coarse, sharp sand. This kind of mortar should be used in all walls up to, or six inches above, the grade.

Upon the footing before mentioned, carry up an eight-inch wall, laying in a course of *headers* once in every five courses; and on all sides longer than ten feet, build a pier four inches by sixteen out from the inside of wall to strengthen the same. Around the cellar, or if the cellar extends under the entire building, the wall should be laid with an open space inside, one and a half inches, and the two parts tied with a row of headers the same as above stated. This open space makes a dry wall inside, by preventing dampness or frost from coming through.

This foundation wall if built from good hard-burned brick, with good mortar made from quick-lime and coarse sand, and the walls laid plumb and true and allowed to thoroughly set before putting on the frame, is good enough, and will stand for a great while. Of course a twelve-inch wall is less liable to get out of shape while building,

and is undoubtedly more solid. If the ground is very wet, it is best to plaster the walls on the outside with good cement mortar up to the surface of the grade.

If stone can be had, as they can in the majority of country towns, their use is far preferable to that of brick, as they will not absorb so much water, and are indestructible. If the ordinary field stone or boulders are used, the wall must be made broader, or thicker, than with rough-split or square stone, field stone being more or less round, so good a bearing cannot be had. We have used them successfully in many public buildings, commencing on a broad footing, and drawing in or battering the wall as it goes up, and using good cement mortar.

By building fires upon and heating the large boulders, and then dashing cold water upon them, they may be cracked open; or by drilling and wedging or blasting, they can be split up, so as to make a good wall. In many places they are blocked out, so as to make a very neat face job above the grade of broken ashler work. In many places these stones of different colors are found, that may be split and blocked out in a rough form, and when laid, present a very pleasing appearance.

In many places it is desirable to make all the foundation below the grade of stone, and above of brick, in which case stone sills for cellar windows should be laid in at the grade, and extend some five inches above the same.

When an outside cellar-way or door is wanted, the sides, if steps are made of stone, should be built in as the walls are laid up; but if plank steps are used, the area should be built first, and plank stringers and steps built in after mason work is done.

In some instances the risers are made of brick, and plank steps are laid in as the area is built up. This plan will answer for a time, but when the planks begin to decay, as they will after a few years, the whole area has to be torn down to rebuild. On the other hand, the stairs if built separately can be readily replaced without disturbing the mason work.

The best plan for covering an outside cellar-way is to carry up the side walls on a slope, and cover them over with a good frame anchored to the wall, and cover over with batten doors.

Sometimes it becomes necessary to have the stairway with open area to light the cellar, or by going down under a platform and under steps leading to first floor. In this case the top of area wall must be covered with a good stone capping three or four inches thick and twelve inches wide, set in cement, and the corner should be tied with iron anchors.

To build piers for verandas and porticoes, excavate three feet six inches below the grade, and if of stone eighteen inches square, lay in cement to grade, and on this lay a pier twelve inches square, of brick. Outside joints of stone should be thoroughly filled, and the joint made a raised joint, known as "tuck pointing." The inside of stone walls should be well pointed with cement mortar.

If the foundation is of brick, it is better to rub those above the grade on the outside of wall with a brick, and fill the joints and pencil them, treating the chimneys in the same way unless the bricks are naturally of a bright color. This makes a very neat appearance, and brick that are not of a uniform color can then be used.

In cities nearly all brick work is penciled, as the brick, though of a good, lasting quality, have not true corners, and are not of uniform color, and without the aid of penciling, they could not possibly make a neat appearing job. This, if properly done, will last in good shape for twelve years or more, and can then be renewed.

On another page of this work will be found a description of the material to make the penciling composition, that will stand the weather well. Many masons attempt to do this, but do not use the right material, and the consequence is that the staining streaks up, and washes off by exposure, and looks very bad in a short time.

CHIMNEYS.

They must be footed on good foundations, six inches below cellar bottom, and wherever possible, they should be carried out plumb and straight. The crooking of flues is to be condemned whenever it can be avoided, as they collect soot, and cannot be readily cleaned out. Sometimes the shrinking and settling of wood supportings allow the chimney to crack off in the bent part, and this may set fire to the building, up under the roof, in the worst possible place to get at.

The joints must be thoroughly filled, and the flues plastered smooth with one good coat, as fast as built. Insert thimbles in flues, wherever needed, two feet, eight inches, from the ceiling.

All flues extending down to the cellar, that do not have ash pits, should have soot drawers. Chimneys that have mantels and grates must have ash pits in the cellar, if there is a cellar, and they should be made in the following man-

ner: Build out from the main wall of chimney, with a space two feet, six inches between, a four-inch wall out the width of the chimney breast, and carry this up under the floor joists, at the same time building up the ends connecting the first wall with the chimney, and from the front of the chimney breast spring over an arch four inches thick against the trimmer in a solid manner, and level up on top to proper height for setting the hearth. In the bottom of the pit, next to floor of cellar, set an iron door and frame for removing the ashes, the bottom of ash pit to be paved over, and laid in cement.

The opening for grate in chimney should be twenty-eight inches wide, and thirty inches high. This will take in any ordinary grate. Leave a hole under the grate in the hearth for ashes to fall down to the pit.

If there is to be another grate in the same chimney on the second floor, as often occurs, the flue for the lower grate, immediately after leaving it, must be drawn over to one side, thereby carrying the flue for the smoke from this grate to one side of the flue on the upper floor; and on the opposite side a flue is carried up and over, terminating under center of grate in second floor, for the ashes from this to fall down to pit in cellar. From the ash pit there must be a flue on the opposite side from this ash spout, from second story, coming up about half way the height of first story, and opening into the smoke flue from the grate in the first floor. The reason for this is that the ashes when thrown down from either floor, but more particularly the second, cause a commotion of the air at rest in the pit, and cause a shower of fine coal ashes to rise up in the room of first floor through the hole to ash pit, if there is no other

chance for it to escape. Now if this flue from pit up into smoke flue is open, the air and dust is forced up into it, and no dust comes into the room.

Many chimneys are built where there is no cellar, but only a foundation wall. In that case, we simply make the pit larger, as it cannot be so deep, and put the iron door in the outside of the wall close to the ground, and the ashes can be readily removed when desired.

BUILDING A CHIMNEY AFTER HOUSE IS DONE.

It may be of benefit to some of our readers to tell them how we built a chimney and ash pit, and put in a mantel and grate, after the walls and ceilings had been neatly papered, in a house that had been built without one. The object was to build a chimney, and put in the grate without injuring the plaster or paper. This was accomplished in the following manner: The workmen cut out the sill and clapboards the width and shape of the chimney, through the clapboards only, extending up through the cornice, and cut a hole through the entire wall, amply large enough for grate opening, and brick jambs, the mantel covering all of this. A solid foundation was then laid, and the chimney built up on outside of house from this, and an ash pit constructed in the same manner as described before; as the chimney was built up, the jambs were extended in for the grate, flush with the walls in the room. The chimney was then carried up on the outside of the boarding, and secured to the same by small pieces of band iron turned to a right angle, and laid in the joints of the brick, and secured to the boarding by a screw or nail. This was done once in six or eight courses, and holds the chimney firmly in place. The out-

side being laid in a neat form, with projecting corners and bands, and nicely topped out and stained and pointed, becomes rather an ornament to the house than otherwise. Terra Cotta chimneys, if of a neat design, can often be used with good effect, serving as an ornament to the building. The same may be said of flues of this material, and for single flues it answers just as well as brick.



CHAPTER IX.

DESCRIPTIONS AND SPECIFICATIONS CONTINUED.—CISTERNS.

—HOW TO MAKE GOOD ONES.—CISTERNS WITHOUT BRICK.—TESTING CEMENT.—A VALUABLE TEST FILTER.—HOW TO HAVE PURE WATER.—THE BEST FILTER.—ANOTHER PLAN.—THE BARREL FILTER CHEAP, DURABLE, AND EFFECTIVE.—HOW TO REMEDY WET OR DAMP CELLARS.



CISTERNS.—Where a hard clay subsoil exists, a good, economical cistern can be made at little cost. Dig the cistern to the required depth, and shape the bottom like a bowl. Cut a shoulder for the brick arch over top, being sure to locate the shoulder at a safe distance below the frost line. This arch should be laid with water plaster, with good solid brick, using great care in footing it against the shoulder. After the first course is laid, draw in gradually, shaping it like a jug, and leave a man-hole, or opening, twenty inches in diameter.

Grout * the bottom, and plaster the naked earth walls

* A coarse mortar made of sand, small gravel, and Portland cement, or water-lime.

and brick arch. If the walls are of solid clay, they hold the plaster quite as well as brick. If the subsoil is porous and of such a nature as to prevent plastering to the earth, *grout* the bottom, which should be flat, and lay a four-inch brick wall in cement, carefully packing in the dirt on outside as the wall is built up. Turn an eight-inch arch at top, as before stated, and plaster the cistern with best cement. The arch should be carefully covered over, and the ground should slope from the opening, for unless care is used in this matter, the frost will damage the arch.

TO TEST CEMENT.

Some cements grow worthless after standing awhile, and it is always best to use the following test: Mix a small quantity of cement with good coarse sand, one part of former to two of the latter, and spread it on the earth, three-fourths of an inch thick, to dry. If this hardens well in three days, it is suitable for the work. Larger cisterns require more care, as the weight of the water is more liable to cause a leak. The bottom should be paved with brick-bats or small stone well pounded down, and on top of this should be laid a coat of concrete two inches thick.

The walls of best hard brick should be eight inches thick, and laid with best cement well thrust down with the trowel, and the arch turned as before. After the inside has been plastered, the top or outside of arch should be thoroughly cemented and allowed to dry before being covered with earth.

Inlet pipes connecting the supply pipes, whether from roofs or otherwise, should be of glazed earthenware, and every joint must be tightly cemented. The outlet, or over-

flow pipes, to prevent cisterns from overflowing and flooding the premises, should be of the same material, and both pipes should be let into the arch at or near its base, so that they also will be protected from frost. It is hardly necessary to state that both pipes should be of equal capacity.

We are in the habit of building cisterns, for dwellings that come under our supervision, in the cellar, where there is room enough for the same. Take some convenient corner, and use the outside walls in the construction of the cellar; if there is a cross wall which can be utilized, so much the better.

If the cellar walls are already laid up, build a second wall four inches thick inside, leaving an open space two inches between, and fill this with good grout. The *inside* walls, or those that must be built to complete the inclosure of cisterns, should be fourteen inches thick, laid with an open space of two inches, four inches from inside or side next to water. This open space should be well filled with grout as the wall is built up. The walls should be tied together, if the cistern is large, with iron rods, crossing above the water. Plastering is the same as for outside cisterns.

FILTERING.

Provision must be made in all cisterns whose water is intended for drinking or culinary purposes, for thorough filtering. Impure water has long been suspected as a fruitful source of disease, and no reasonable expense should be spared to secure pure water.

Among the many plans in use, we present what we know to be good. After the cistern is fully completed, select good solid brick, not the hardest, and never flinty

ones, and erect on one side of the cistern, beginning near the bottom, a kind of false wall or a separate apartment, sweeping around and up to the wall again, thus forming a kind of closed pocket. Lay the bricks very close, using good cement, and terminate this pocket against the arch over top. Do not plaster it over inside or outside, but be careful to make it tight, and close it up as if to make a separate chamber in the cistern; now let in the pipe from the pump, and extend into or near the bottom of this chamber. The water will soon find its way through the porous brick, and can be pumped out. The supply will be sufficient and perfectly pure, as it is impossible for impurities to get through the brick. A filter for a cistern in a cellar can be made in the same way, using a convenient corner for it.

Another plan is to form a basin of brick in the bottom of cistern, circular in form, and in the center of this set a perforated earthen jug, made for this special purpose, into the neck of which the pipe of pump is introduced and cemented. Fill the basin, which of course should be larger and deeper than the jug, with fine, well-washed gravel and charcoal, the top being finished with gravel only. If after long use, or indeed from any cause, this filter becomes foul, the water may be drawn off, and the materials renewed; for this reason we are inclined to think this filter the best.

Another filter for cisterns supplied with water from roofs, is made as follows: Procure a forty-gallon barrel, well bound with iron hoops, and take out one head. Make a false head, and bore it full of small holes, and also make one hole large enough to admit the supply pipe from roof. Place the barrel on a solid foundation near the cistern, and into it fasten this false head one-third the distance from bottom.

Bring the supply pipe in position, passing it inside the barrel and down through the hole in the false bottom to within three inches of the bottom.

Fill in on top of this false bottom, first stones, then gravel, and then charcoal, continuing a layer of gravel and charcoal until within six inches of the top. Make a hole in the side of the barrel, and from this pass a pipe to the cistern.

The water will pass from the roof to the bottom of the barrel, and bubble up through the stone and gravel till it reaches the pipe at top, when it will run off into the cistern. A cock should be placed near the bottom of barrel to draw off the remaining water, when the rain is over.

If it is possible to get sufficient fall for the purpose, water pipes should be placed in the bottom of cisterns in cellars for the purpose of cleaning them. A lead pipe one inch in diameter will answer. Place a compression cut-off cock at some convenient location for drawing off the water, and connect the waste-pipe with the overflow pipe.

VAULTS.

Vaults for cess-pools or outside privy purposes, where the contents are intended to filter away into the earth, should be built up of rough stone, laid open, without mortar, until within two and a half feet of the surface, where brick and mortar should be used.

Cess-pool vaults should be arched over and covered with stone flagging, and should invariably be ventilated. This can be accomplished by connecting the main pipe leading to cess-pool with the flue in kitchen chimney by a four-inch iron pipe, or by running the pipe up the wall of the house, above the roof, with a cap on top.

Soil pipes that pass from water-closets in the house, must be of iron, four inches in diameter, and the joints sealed with lead.

CONCRETING.

When the soil is wet and spongy, and where the surface water is not readily taken up in wet seasons, concreting for cellars is necessary.

The floor should be neatly leveled, and a three-inch tile drain, inclining to and connected with the sewer, should be laid on all four sides of cellar close to the walls. Then lay a rough floor of small stones or brick-bats four inches deep, and pound this down, and finish with a two-inch coat of cement concrete, made of cement one part and coarse sand two parts. If the soil is gravelly the tile may be dispensed with.



CHAPTER X.

DESCRIPTIONS AND SPECIFICATIONS CONTINUED.—LATHING AND PLASTERING.—CARPENTER WORK.—TIN ROOFS.—CRESTINGS AND FINIALS.—DOORS, WINDOWS, BLINDS, AND SHUTTERS.—INSIDE FINISH.—MAIN ROOM AND KITCHEN.—PLUMBING.—GLAZING.—STORM DOORS.



LATHING AND PLASTERING.—In wooden buildings the walls should be made even, so that when the plastering is put on, the wall will present no “ins and outs.” This may be effected by trimming all the timbers down to an equal width before lathing.

Stone and brick walls should be furred with strips; for brick they are one by two inches, nailed to the bond timbers laid in the walls, once in nine or ten courses, as they are built up, and for stone two by four inches, nailed to plugs or wedges, built up with or driven into the walls. These furring strips are placed sixteen inches apart from center to center, and the lathing nailed to them.

In the best houses it is customary to cross-fur on ceiling joists, as when done, the plastering is less liable to crack.

Laths should be made of spruce, pine, or other soft woods, and thoroughly seasoned and dried. The mortar should be made of first quality of quicklime and good sharp sand, mixed with plenty of long hair. Ceilings should first be gauged with a mortar of plaster-of-Paris and lime, followed by a coat of *browning*, or common mortar, and finished with a white, hard putty coat made of plaster and quicklime.

In the better class of houses, three coats are given to the ceilings, and two to the walls; this prevents the laths from showing through the plaster. All angles should be smoothed down, and corners made straight and true. Stucco cornice and plaster ornaments for ceilings are giving way to paper, which is now prepared in beautiful designs expressly for ceilings.

CARPENTER WORK.

In most parts of the country it is usually the custom to let the contract for building wooden houses to the carpenter, who is frequently a contractor, and sub-contracts the erection to other parties.

There is one evil in this method, against which we wish to caution our readers, viz: When the contractor gets the whole job in his hands, he is too liable to seek the lowest priced sub-contractor for the different kinds of work, such as plastering, painting, etc., and the result is a poor job throughout. The only remedy for this is to have the contractor select his subbuilders, and then learn whether they are trustworthy before awarding him the contract.

Another plan is to contract the different kinds of work separately, thus securing a better job, as no speculation is involved.

FRAMING TIMBERS.

These may be of any lasting wood, and hence the kind most readily obtained will be used; spruce, pine, whitewood, poplar, or oak, is suitable. In many localities it is customary to use sills containing about twice as much material as is necessary. If the foundation is properly made, of brick or stone, the sills may be two by six inches, but if the house is built on piers or posts, the sills should be six by eight inches, or eight inches square, with the corners framed together, and the joists framed in even with top of sills. When smaller timbers are used on brick foundation, the flooring joists are not framed in, but rest on top of sills.

The *studding* should be of good sound wood, free from many knots, two by four inches, cut to an even length, and *gained* on the side for ledger boards which support second story joists. Each studding should be nailed to the sill with four tenpenny nails; this we believe to be better than the old plan of mortising into the sills, as in that case they are framed very loose, and cannot stand so much rough usage.

The *plates* for rafters to rest upon should be two by four inches, and should be doubled, and spiked down to each studding with thirty-penny nails.

The ledger boards, supporting the joists of second story should be of the soundest material, one by five inches, let into the studding and spiked to them.

The first and second story joists should be two by ten inches, and the attic joists two by six inches. The joist of second story should be spiked to the studding with thirty-penny nails. The rafters, if for shingles, should be two by

four inches, but if for slate, two by six; in either case they should be set sixteen inches apart, center to center, and collared with sound boards nailed to every other pair. At doors and windows the studding should be doubled to give more strength for casings; and where partitions are placed, the floor joists should be doubled.

Boarding for outside walls should be of sound pine, spruce, hemlock, or whitewood, one inch thick, planed on one side, laid close joint, and nailed on both edges at every bearing. The same kind of boards should be used for covering the rafters, but the joints should be laid open; and if floors are to be laid double, this kind of boarding will answer for bottom floor, and the attic floor will need no other flooring.

SHEATHING PAPER, see page 42.

SHINGLE ROOFING, see page 42.

CLAPBOARDING, see page 43.

Slate roofs, when of first-class slate, well laid, and all joints perfectly fitted, are the most desirable of all. There are many varieties of slate, and, like Joseph's coat, of many colors. It has been the custom to use these different colored slates, arranged in pleasing figures, and presenting a very good effect, but we are inclined to prefer the jet black slate; nothing is richer, and the color will fade but slightly.

The slate should be seven by fourteen inches, cut to any desirable pattern on exposed ends, round, hexagonal, or clipped on the corners. Slate should be laid two and a half inches *head cover*, that is, each slate should lap over the second one below it that distance, and if the roof is not steep, three-inch laps will be required.

The first course of slate must be doubled, and the last

course and all small pieces used in fitting must be well bedded in elastic cement, made and for sale for the purpose.

On gothic roofs, and in fact any roof where the roof makes an angle, great care should be taken to have the slate cut and set to a perfect joint; but as they can never be cut so as to make a perfectly water-tight joint, each course must be *flushed* under with tin, that is, tin must be bent over the last course and extend up on sheathing so that the next course will hide it. All valleys (gutters made by angles of roofs) must of course be made of tin, and the slates neatly fitted and set in cement.

In slating about chimneys, the tin should pass under the slate and turn up against the bricks; but this is not enough, this tin against the bricks must be cap-flashed, or in other words, the mortar must be dug out of bricks just above, and tin or sheet lead inserted and turned down, then no leak can occur.

For fire-proofing shingle roofs, see RECIPES, VARNISHES, and PAINTS.

TIN ROOFS AND TRIMMINGS.

Away from the salt atmosphere of the coast, tin makes a good roof, and will last, if good and well put on, for a long time. Owing to the fact, however, that there are many inferior brands used, these roofs give out prematurely, and in consequence, many condemn the material. The best brands are M. F. Charcoal, I. X., and I. C., ranking in quality in order named; the last is a thinner tin, not so good, of course, but much used.

All portico, veranda, and bay-window roofs, and all sunk gutters on same should be covered with tin. Tin all window caps, turning it up four inches under the clapboards.

The bay-windows require especial care, being so exposed as to make it very difficult to protect them from leaking. The tin must extend up under the clapboards, and around the studding.

The conductors, leading water from the roof to the ground, should be made of good material. I. X. tin will answer, but corrugated galvanized iron, we think, is best, as it will expand when water freezes in it, but will not burst. All tin roofs and trimmings should be painted with mineral paint as soon as they are put up.

CRESTINGS AND FINIALS.

The roofs of many buildings can be much improved in appearance by the use of some one of the many neat designs of ornamental iron crestings, to be supplied by hardware dealers or manufacturers. Finials of either wood or iron look well upon gables.

STAIRCASES, see p. 51.

FLOORS, see p. 45.

Portico and veranda floors should be laid of stuff one and one-fourth inches thick, and two and one-half inches wide; the edges should be painted with white lead, and the floor nailed blind, (*i. e.*, in edges of boards, so that the nails will not show).

DOORS AND WINDOWS.

All styles of doors and windows are now ready-made and are for sale everywhere, so it is only necessary to specify in the contract with the builder the kind and style wanted, unless special designs are desired.

Outside and sliding doors should be one and three-fourths inches thick, and all other doors one and three-eighths inches

thick. Material must be thoroughly kiln-dried, and free from knots and sap. Window sash and frames should be fitted snugly; and above all, sash should be hung with cord and pulley where the expense can possibly be borne. Sash should be from one and three-eighths to one and three-fourths inches thick.

If not hung with pulleys, windows should be supplied with convenient locks to hold them at any desired height. The casing and stops about windows should receive great attention, as here is the place that usually admits much cold in winter.

BLINDS AND SHUTTERS.

These are very desirable; but there are difficulties in the way of the use of inside blinds, as they may interfere with the window drapery. They should be arranged to fold on hinges, fourfold being most desirable. The slats should be made horizontal, as they hold in place better when arranged for the admission of light.

Outside shutters are usually one and one-fourth inches thick, and should be made of the best material, and hung in the most substantial manner. Like doors, blinds and shutters are for sale ready-made, and in contracting, specification should be made of style wanted. Neat locks or catches should be put on both inside and outside shutters.

INSIDE FINISH—WOOD-WORK.

Here is the department where good taste will assert itself. The wood finish of the different rooms should receive due consideration in the plans and specifications, and definite contract of what is to be done should be made with builder.

For buildings of medium cost, it will be more satisfactory to finish in soft wood, and pine is the best. When well smoothed down and varnished, it presents a beautiful contrast with the furnishings; and as it is the cheapest, all can afford it, nor should it be discarded by any because it is cheap. It can be easily cleaned and re-varnished.

MAIN ROOMS.

These should have molded architraves or casings on doors and windows, of neat design, resting on plinth blocks at the floor. Back plaster under the windows, and cover this with a neat sunk panel, extending to the floor and finished with raised moldings.

Base boards should be paneled and finished with a neat design of raised moldings on the top. Exposed or projecting corners of plastering should be covered with turned beads of pine, extending four feet from base finished with neat turned design on each end.

Second-floor chambers finished same as main rooms, with architraves one inch narrower.

KITCHEN.

This room should be wainscoted on all sides three feet high, with matched and beaded sheathing, not to exceed four inches in width, applied vertically, and the top finished with a neat molded cap.

The pantry should be finished with one broad shelf, with space beneath for flour barrel, which should be closed in its place with a door, and from the broad shelf above cut a door through to reach the barrel. Adjoining the barrel under the shelf, place a tier of three drawers, and if the

length of the pantry will permit, a cupboard may also be placed under the shelf. Finish the space above with shelving, hooks, and other conveniences. The bath-room should be wainscoted same as the kitchen, except behind the tub, where it should be four feet high.

The bath-tub must be paneled in front with raised molding and the top finished with a molded cap. The water-closet should have seat and tight-closing cover, both hinged to raise separately, and the riser in front paneled like bath-tub, hinged at the bottom, and secured by catch at top, for convenience in repairs.

The wash-basin should be supplied with neat paneled door and one drawer.

THE MANTEL.

In the Eastern States, mantels of hard wood are now quite popular, being gotten up very elaborately. Cheaper ones can be made of less costly woods, and when finished properly they look quite well.

The mantel-shelf should rest upon two uprights of wood which form the sides of the mantel, and these should be paneled and finished with raised moldings. The board immediately under the mantel-shelf should also match them. Our preference, however, is decidedly in favor of marbleized slate mantels, which can now be obtained by any one at a reasonable cost.

Further suggestions on mantels will be found under HOUSE FURNISHING.

PLUMBING AND FITTING.

There is, perhaps, no department of house finishing upon which the health and comfort of the inmates depends more

than plumbing and fitting, and probably nothing is more annoying and dangerous than a poor and incomplete job of this work.

There is no part of the work connected with the erection of dwellings, we are free to confess, that we so much dislike to contract and superintend, and in a measure become responsible for, as the plumbing.

We recommend that this work be contracted separately, and that none but the best workmen be allowed to figure on the job; in addition to this, let the plans and specifications for the work be complete, and carefully inspect the job as it progresses.

We deem it unnecessary to go into a detailed description of plumbing for city residences, as good, trustworthy workmen, under the direction of the architect, will be able to dictate what should be done, better than can here be described.

For those who have not public water supply, we give a few hints that will be of value; and here let it be remarked that for the additional expense incurred, the increased comforts and better health will fully compensate the occupants.

Our description contemplates a bath-room, with hot and cold water, and a water-closet,—one of the greatest conveniences of a house. The hot water attachments may be left off, if expense cannot be borne, until the owner is better able to incur the cost.

The greatest care should be taken in the connection of the pipes, so that foul gases may not escape into the rooms. A tank holding from two to ten barrels should be constructed in the attic above the bath-room, or in the top of the bath-room, near the ceiling; it should be in the attic if

the building has a deck or flat roof so that the water may be conducted to the tank; if a pitch roof, the tank *must* be in bath-room.

The tank should be well supported with strong posts or partitions, as otherwise the weight of water might cause settling of building and cracking of the plaster work. Line the tank inside with sheet lead or zinc, lead being preferable. A wooden tank might be made by a first-class workman, but it is not so durable, and more liable to leak. Conducting pipes from roof must empty into the tank, and a pipe from the force pump at cistern, or well, must also empty into it for filling in case of long droughts.

A pipe to prevent the tank from overflowing should be inserted near the top and led down to a drain or sewer; its capacity should be equal to the capacity of the conductors from the roof, and it must have a *trap*, (simply a vertical bend in the tube like the letter S,) to prevent sewer gas from rising from the drain or sewer.

A three-quarter inch supply pipe must be sealed into the bottom of the tank and led down to the bath-tub, where branches should be made to the water-closet and lavatory (wash-basin). Faucets of the desired pattern should be fixed at the bath-tub and lavatory.

Hot water may be obtained by setting a thirty or forty gallon galvanized iron boiler in the kitchen, making all necessary couplings with the stove for heating the water. A pipe leading from the tank just described will keep the boiler supplied, and force the hot water up into the bath-room for supplying tub and wash-basin, and also for cleaning and scrubbing purposes.

The bath-tub should be lined with ten-ounce planished

copper, and a waste-pipe soldered into bottom of tub, and also an overflow pipe near the top, both connecting below the tub, and leading off to the soil pipe from water-closet.

Set a water-closet near the tub, (The best made are the A. G. Alexander, and the Jennings water-closets, the first being preferable,) and connect closet with a four-inch lead S trap, which should be sealed into a four-inch iron soil pipe extending down to, and sealed into the sewer; complete by connecting the pipe from tank with the wash-pipe of closet.

The lavatory, or basin, should be supplied with an overflow bowl, and the waste and overflow pipe should be connected, S trapped, and let into the lead S trap in the water-closet, and compression faucet connected with supply pipe over the bowl.

A four-inch ventilating pipe made of No. 26 galvanized iron, *must* be connected with S trap of water-closet, and extended at least four feet above the roof, terminating with a cap.

Smaller ventilating tubes should connect bath and basin trap with this large shaft.

Another ventilating shaft, nearly as large as the first, should be connected with the space under and around the water-closet, which is supposed to be boxed up, with a cover to shut down on seat, and carried up into attic, and connected with kitchen or other flue.

We have thus gone into particulars so that our readers, not acquainted with such matters, may see how the object desired may be obtained. The expense is not so great as might be supposed, and by leaving out the hot water, as we have said, it may be reduced; a further reduction, saving

much, might be made by omitting the water-closet, but by all means put it in.

PAINTING.—See HOUSE PAINTING.

GLAZING.

Double thick glass, either French or American, is more durable, and costs less, proportionately, than glass of single thickness.

In main rooms, at least, the custom now is to make the glass large, one pane to a sash, and two to a window; all cost considered, it is about as cheap as to put in several panes of smaller and thinner glass, and it is far better in appearance. If the doors are to have *cut glass panels*, and it does not add greatly to the cost to have them, each pane must be bedded against putty, that is, putty is first put in around the shoulder against which it rests, and the glass pressed down against it and secured with glazier points, and then fastened with putty; window-glass should be bedded in the same manner.

HARDWARE.

The front door should have a good, brass face, or other style lock and night latch combined and the knobs of the door and door bell and the escutcheon, should be of genuine bronze or other durable material. A door bell adds character to a house, and it is always a source of annoyance to occupants and visitors to be compelled to rap, rap, rap, till some one in the back part of the house hears and attends. A good bell should be at least four inches in diameter, many styles being for sale by dealers.

The front door should be hung with three butts, four

and a half inches square, of real bronze or Berlin bronze, and if the door is double, the stationary door, or wing, should be provided with good strong bolts at top and bottom. Sliding inside doors are very convenient, but to act well, must be built in with the walls and must slide on anti-friction rollers, run on brass or other solid track.

Knobs are made of a variety of materials; bronze, porcelain, lava, and turned wood are appropriate and durable. Sash locks are useful, and should be placed on every window; we think the Morris sash lock the best. Cellar and all other doors requiring rough usage, should be swung with wrought-iron butts.

STORM DOORS.

In many parts of the country the use of storm doors is unnecessary, as in the South, but in all of the Northern States they should be put up on houses not provided with vestibule entrances, on the approach of cold weather. They economize fuel by preventing direct cold currents from the entrance door. The storm door can be made by any one who can handle tools; and when once made, can be taken down and put up each winter by the owner. It should be made in sections, and these should be fastened to facings of main door and to each other with hooks and staples. The storm door itself should be self-closing so that from neglect it may not be left open.

Our object in presenting the foregoing Descriptive Specifications has been to set forth and explain the details of construction, so that any one not employing an architect can make out his specifications in such a way that the builder will leave out nothing. It may also enable those who have

plans and specifications made out by a builder or architect, to examine the same in connection with these pages and see if the quality of material and character of workmanship are up to the standard, and whether any omissions have been made.

In another part of the work will be found a Form of Contract for building. It has the sanction of good builders, and is pronounced good by a legal authority.



CHAPTER XI.

HEATING AND VENTILATION.—OPEN FIRE-PLACES.—GRATES
AND FURNACES.—STEAM HEATING.—HOW TO VENTI-
LATE.—IMPURE AIR.—NATURE'S DISINFECTANTS.



HE old fire-place, with its cheery blaze and glowing back log, and coals that assume ten thousand fantastic shapes and pictures, all giving out an abundance of heat, cannot be outdone by any inventions of modern progress, we think, even though more easy methods have been introduced.

In a location where wood is abundant, we advise house owners to have a good, large, open fire-place in the main living-room, as we think this the nearest approach to a means of perfect ventilation, the warm flue of the fire-place creating a strong draft from near the floor and carrying out the foul air. Moreover, the influence of the open fire, with leaping flames and glowing, crackling coals, draws the family around its magic circle and brings the members a little nearer each other.

GRATES AND FURNACES.

The nearest approach to the open fire-place is the grate

for burning soft coal, and when arranged with its ash pit as before described in this work, is very easy to keep clean. This method of heating is now very general and answers the purpose quite well. A good mantel and grate may be obtained at from thirty dollars upward.

Heating furnaces, burning wood or hard coal, are very much used also. Out of the many patterns made, some are reasonably good, among which we would recommend the Boynton, the Magee, the Ruby, and the Dome furnaces. All modern styles have a reservoir for holding water, to be evaporated into the hot-air chamber, and thereby moistening the heated air and giving a warmth more like steam. With old-style furnaces, the difficulty was that the air was burned or vitiated, and thus rendered unfit to breathe. This obstacle is mainly overcome in the modern furnace.

The furnace should have a cold-air supply-box or conductor leading from the outside, and also a register in the hall with conductor leading to the furnace. This will take the cold air from the rooms when heating begins. The supply conductor from outside should be ample, and should have a cut-off for regulating the supply of cold air.

Most furnaces can be used without being covered with brick; but we advise, as a means of economizing heat, that they be bricked in, first by a single four-inch wall, and around this, with an air-space of ten inches between, an eight-inch wall. This arrangement leaves a space between the furnace and first wall, and the inside of this wall should be covered with plaster-of-Paris, as it is a non-conductor of heat.

The pipes conducting the hot air should be of tin or galvanized iron, and should be let into the top of hot-air cham-

ber over the furnace. The warm conductors leading to the rooms of the first floor, open into a register in the floor, which should be bricked in around, four inches from any wood. The conductors to upper stories should be by means of tin flues in the walls, and these should open by register into rooms just above the base board. The smoke pipe should be connected with the highest and largest flue in the house.

Steam as a means of heating dwellings is comparatively new and not very generally used yet outside of large cities. In Detroit, and two or three other large cities, there is a section of the city, covering an area of nearly one square mile, successfully supplied with steam, by a Steam Supply Company, from a battery of boilers all located in one building, the steam being carried in pipes laid under the pavement. This method has been tested sufficiently to demonstrate its superiority over all others as a means of heating large buildings with many rooms. The ease with which steam finds its way through pipes to the remotest part of a building, without any sensible loss of heat, gives it a great advantage over furnace heating.

The method is healthful, and with the present precautions and use of low pressure boilers, no serious accident can attend its use. The radiator pipes or drums for each room are made in an endless variety of designs, painted, gilded, and varnished; and while the cost of putting in a boiler and pipes is greater, the saving of fuel and safety from fire will soon repay the additional expense.

One hint may be profitably added here, to those who are not accustomed to steam; every radiator must have, of course, a place for the admission of steam, and this is always supplied with a valve to turn off the steam and turn it on

as occasion requires, and every radiator *must* have a small air exhaust, at the opposite side or end from the valve. It is sometimes omitted by the workman, but must be put in or the register will not work. When the steam is turned on, open this air exhaust until the steam drives out all the air, and when the steam is turned off, open exhaust to let air in.

VENTILATION.

The importance of pure air in our dwellings cannot be overestimated; inventions without number have been made and offered the public, and treatises without end have been written, each of which, if we should credit the inventor or author, afforded a perfect and the only possible means of escape from death by foul air. One after another they have been tried, and their adoption has resulted in failure and disappointment in too many cases, and yet many seem to be looking for some patent self-regulating process or device, which, without knowledge, attention, or thought, shall ventilate a dwelling.

The expectation must always meet with disappointment, but with our present knowledge, and without waiting for any new facts or inventions, we can apply our common sense and thereby devise plans to secure air reasonably pure in our rooms.

The principal impurity in the air in our rooms, is carbonic acid which is produced in the act of breathing, hence it is being constantly thrown off, and if not removed from the room it will soon vitiate all the air within.

In a nearly pure state carbonic acid is heavier than air, and where the air is of an even temperature, it will occupy the lower part of the room near the floor. Owing to the fact, however, that in most cases the air is warmer in

some parts of the room than in others, it is not at all improbable that the carbonic acid diffuses itself throughout the room.

The problem then is to remove this vitiated air, and supply its place with pure air, by not subjecting the occupants to cold draughts. To secure this end, ample means of entrance and escape of air must be made.

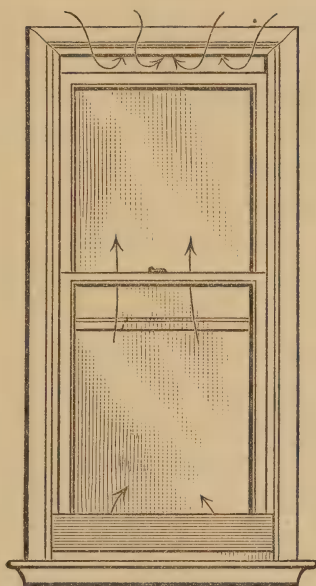


Fig. 1.

The best means which can be provided, is the open fire or grate for escape, as currents setting up the flue will change the air very quickly if means of entrance are provided by an open transom, a window lowered at the top, or other means.

Our illustration shows an easy, cheap method of ventila-

tion adapted to any building. Fasten a neat piece of wood from 3 to 5 inches wide inside the bottom sash, fitting it tightly at ends and bottom, and leave it far enough away so that the sash will move up and down with ease, and if there is half an inch between, it will only act the better.

When the lower sash is raised, the air rushes into the room between the piece of wood set in and the sash, and also at middle between the two sash, as shown by the arrows pointing upward. It will be seen that the piece set in prevents the air from coming in and striking the occupants as a direct draught, as when the air strikes the board, it deflects it upward. A weather strip could be fastened to the bottom of sash between piece set in, and thus admit air only between the two sash at middle of window. If it is desired to establish an outward current, the top sash may be lowered, when the air will pass out as indicated by the four arrows.

The "revolving ventilator" which is sold at the hardware stores, is recommended by many. It is inserted in a circular hole cut in the glass near top of window.

Plenty of air should be admitted into the bed-room,—no danger of "colds" when abundance of pure air and clean bed-covers are at hand. Children's rooms should especially be looked after in this respect, as we owe it to them to give abundant supplies of nature's own disinfectants,—pure air and water.

Rooms that have their doors opened and closed frequently, as in the living-rooms, need but little attention in ventilation. In the morning the windows and doors of bed-rooms should be thrown open and allowed to remain so for some time, to permit the pure air to thoroughly search every nook and corner, and drive out impurities.

CHAPTER XII.

SITUATION AND SURROUNDINGS.—SELECTING A HEALTHY SITE.—HOW TO SECURE GOOD DRAINAGE.—PURE WATER.—DANGER FROM STAGNANT POOLS.—HOW A HOUSE SHOULD FRONT. — SUNSHINE. — ITS VALUE. — SHADE TREES.



OTHER things being equal, high ground is always preferable for a building site; but many things must be taken into consideration in the location. Old water-courses, low, swampy grounds, and dense forests should be avoided, as they are fruitful sources of disease. It is not pleasant to locate near a manufacturing concern, where the din of resounding machinery fills the air with discordant sounds, and where clouds of smoke settle down at the most inopportune moments.

It is not best in cities to locate where a good sewer is not accessible, for in time the difficulty in drainage will become very annoying.

In the country there is not so much difficulty in securing a desirable location. The first consideration should be good drainage, and the soil and subsoil must be carefully exam-

ined to this end. If the soil is gravelly or porous, and the subsoil a hard clay, impervious to water, the site is not a good one, for the surface water will simply settle down to the clay and remain there, making the ground damp and unhealthful. This may, however, be remedied to a great extent by putting in tile drains, but it is best to find a good porous or gravelly subsoil.

Where a good system of sewerage is maintained, the drainage is of no consequence, as it is easy to secure almost perfect immunity from damp premises.

The next consideration is a good and ample supply of drinking water, and water for all domestic purposes; this is of vital importance. It is far better to be at some expense in bringing it from a distant spring or a running stream by means of pipes, than to run any risk by the use of contaminated water. Many fine sites, in other respects very desirable, are not deemed practical by reason of their location on high ground away from water, but this difficulty can usually be overcome if there is water within a reasonable distance in a valley below, by means of a Hydraulic Ram.

A well should not be located near any building unless there is a perfect system of drainage for carrying off the surface water; neither is it safe to locate a well too near a drain, as the incline of the surface or strata of subsoil may allow the sewage to filter through into the well and contaminate the water.

In many parts of the country, where the lower strata is gravel, and where the water is only a few feet down, drive wells are put in by driving into the earth an iron pipe one and a half inches in diameter, upon the end of which is

firmly screwed a sharp, steel-pointed head, the pipe for a few inches above the steel-pointed head having small holes for the admission of water. Water from this kind of wells is usually pure, and no water from the surface can get in to contaminate. Any system of drainage depends largely upon a good supply of water for its effectiveness, and without good drainage the best location will soon become unhealthy.

A quick-running stream, if not subject to annoying or dangerous overflows, is to be desired as an adjunct to a good site, as it can be made the means of carrying off accumulations of filth; but a sluggish stream, or standing water, should be avoided, as danger lurks on their banks; nor are pools that are made for ornament to be trusted.

Lakes, if fed by rivulets or unseen springs at the bottom, so that the water will not stagnate, may be most delightful and reasonably healthful as adjuncts to building sites.

EXPOSURE OF A HOUSE.

The exposure of a house, or the direction it fronts, and the relative location of its principal rooms, has much to do with the comfort of its inmates.

The greatest consideration is the admission of sunshine into every room, if possible, sometime during the day. In cities and towns where the streets run with the cardinal points of the compass, a northwest corner, the house fronting south, is the best location, next to which the west side of a street is preferable, as the principal rooms may then be located on the east and south exposures; and if some room must be located so that sunlight cannot enter, let it be the dinning-room, for while we want it as pleasant as possible, we live

in it less time than any other. The kitchen also may be located on the cold side, as may the staircase and hall.

If the house should stand on the west side of street, on an inside lot, the principal rooms should be on the south side, if the house is on the east side, the exposure of the principal rooms should be on the south and west, and for sunshine this is really a better location than the foregoing, but it has the disadvantage of being exposed to the intense heat of the afternoon sun, which can in a measure be overcome by shade-trees placed not too close to the house.

If the house is built on the north side of the street, the house fronts south of course, and the principal rooms should open to the east, allowing the morning sun to pour its full rays into the rooms, just at the time of day when sunshine is enjoyable; and as the day passes the sun will sweep around and give the whole front and west side a bath, leaving the east rooms cool and shady in the afternoon. There are some disadvantages in locating a residence on the south side of a street, for the winds of winter have full play upon the parts where the principal rooms must be located; and yet this can be overcome by the use of double windows, and by building a vestibule entrance, or a storm door. While such houses may possibly be colder in winter they are more pleasant in summer.

All houses should have verandas on the sides exposed to the sun, if possible, and sleeping rooms so exposed, may be rendered cooler by keeping out the hot rays by means of awnings.

In the country, no obstacles are usually in the way to securing the best possible location for sunlight.

The best frontings are either south or east, and if the

house should be set in some other way than with the cardinal points, there is no law by which the owner can be compelled to turn it around.

The rooms must be so located as to secure the sunlight to the best advantage, the style of the building and location of trees having, of course, much to do in determining what is best to do.

There is nothing, perhaps, that enhances the beauty of houses more than trees and shrubbery when there is room for them. Trees should not stand too near houses, nor should their branches ever overhang, as they not only damage the work and mar the beauty of outline, but they also cause a dampness to settle around and into the house, rendering it unhealthful. We think much of shade-trees, but would keep them at a respectful distance from the house; near enough to break the force of winter's winds, and shelter from summer's sun.



CHAPTER XIII.

THE PRIMITIVE HOUSE.—OUR NOBLE ANCESTORS.—MODERN RESIDENCES.—HOW TO BUILD A HOUSE AND MAKE ADDITIONS TO IT.—A SIMPLE COTTAGE.



ANY of our readers are no doubt familiar with the old-fashioned house built by our forefathers—the *log cabin*. Our engraver has succeeded very well in producing a good illustration, one with its primitive surroundings. Who shall say that its walls of rough logs, and its roof made of rough puncheons held in place by poles, did not shelter the best blood of our nation? And who shall fail to revere the memory of those who toiled in and reclaimed the wilderness from its wildness, endured privations, poverty, and misfortune, triumphed over obstacles almost insurmountable, and made it possible for us to possess Our Homes and Their Adornments?

No architect had they to plan parlor, library, and conservatory, no mills had they to cut, plane, match, and fashion the lumber; but with ax and rude saw they hewed from the tree each piece, patiently but perseveringly until

the house was finished,—not in soft wood or hard wood, not in molded base or graceful architrave, but finished for such comforts as they needed.

And the MOTHERS—all glory to their memory!—their fingers were busy in interior decoration—not in making *applique* work, not in painting *plaques* and panels, but in providing such comforts as could be obtained. They took



Fig. 2.

as much pleasure and exhibited as much pride in their graceful festoons of red-pepper pods and dried pumpkins, as does the modern woman in her richly ornamented *portière* or *lambrequin*.

Comfort never waited to be invited into such a house; she entered and took up her abode there. Little use for ventilating apparatus—the high piled open fire-place, roar-

ing and crackling, asserted its ability to assume all care of the frequent change of air in the room, and as for inlets for air, there were plenty of them.

The plans and specifications of such a house would probably call for "solid walls of native timber carefully grooved and fitted at each corner so that no crack between timbers should exceed six inches; the walls at the ends carried up so as to give the roof the proper pitch; the rafters to be of poles, laid from end to end; the roof to be of slabs, lapped and the joints broken; the whole to be held in place by good solid poles, well 'scotched' and tied down at the ends; the floor to be made of well-smoothed slabs, laid close and in a workman-like manner; the walls to be plastered with good, tough red clay, carefully put on with the hands; the whole building to be completed and ready for occupancy before the approach of cold weather."

Each man was his own architect, contractor, builder, and finisher; yet the old log-house did not long content its occupants, for after the "clearin'" was made and the fields well under cultivation, the *hewed* log-house was built, and perhaps after a few years a *double* hewed log-house was put up, with well-fitted logs, and cracks filled, not with red clay, but pure white lime, burned from stone taken from the quarry on the premises.

Thus the desire for better houses, and the ability to possess them has grown, till by genius, industry, and frugality, any family may possess their own home and adorn it in a manner suited to their taste and means. To all such, the several departments of this work are worth perusal.

DESIGN I.—A PRAIRIE HOUSE.

In the accompanying engravings we have, perhaps, given a plan that may seem advisable for some of our prairie readers to follow.

There is hardly any one settling on the prairies who could not produce lumber sufficient to build a small "shanty," but is deterred from doing so, for, he says, "I will be able in a few years"—remember, the corn-growing and pork-producing farmer of the West accumulates fast when once started—"to build me a good, respectable house, and I hate

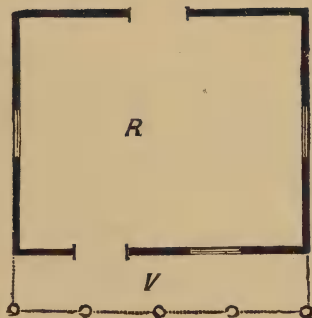


Fig. 3.

to waste material upon something that will be nearly useless then." It is to help this class of builders that our designs are intended.

Fig. 3 represents a simple cottage of only one room, which can be erected at a very trifling expense, even on the prairies where lumber is high and scarce, and must be hauled a long distance. It is 12x14 feet, and 7 feet between joists, it will take material as follows: 800 feet of

inch boards @ \$30 per thousand, \$24; 4 sills, 6x9, and 4 beams, 6x6, 10 rafters, and 12 joists, \$6; 2 panel doors @ \$2.50 each, and 3 windows @ \$1.50 each, \$9.50; nails and paper for roofing, \$10. Total, \$49.50.

Here is a cost of about fifty dollars; and any man of ordinary ingenuity can do all the work himself, with the aid of a carpenter to case the windows, and case and hang the doors. Let him first frame the sills and lay them upon the foundation in proper position; next frame the beams and

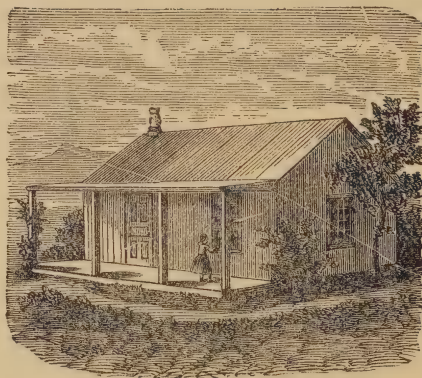


Fig. 4.

lay them upon the sills; then securely nail two boards perpendicularly at each corner of the sills.

Use sixteen-foot boards, cut in the middle; this will make the building seven feet in the clear. Now cut four stanchions seven feet long; and with the aid of one person you can raise the beams one end at a time, slip under the stanchions, and nail the tops of the boards that had been previously nailed to the sills, securely to the beams, and you

are ready to proceed with the planking, which any one can do who can saw off a board and drive a nail.

For roofing, use saturated tar paper, which is manufactured expressly for it, and is for sale in all Western towns. The cost is about one-fourth that of shingles; it is not as good, but will last several years, when you can lay your shingles right over it.

If you build in the spring or early summer, you can omit the clapboards until the fall; but don't omit the *veranda*.

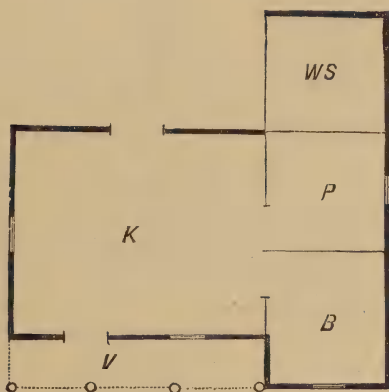


Fig. 5.

We are like an architectural gentleman who once went into ecstasies over blinds. We have nothing rebutting to show; it is a blind subject; but we think the crowning glory of any house, large or small, is a veranda, or as the girl called it, "our folks's stoop." So much for Fig. 3.

Now we will suppose our humble farmer, at the end of one or two years, has acquired means to enlarge his humble

domicile. This he can do, as shown in plan, Fig. 5, which consists of his first erection with a lean-to of one bed-room, a pantry, and a wood-shed. This can be erected upon the same principle as the first. The reason we recommended planking and clapboards in preference to studs and clapboarding, is that any one can build with planks; but it will require a professional carpenter to build a studded house.

Fig. 5 will make a very convenient house for a small family. The inside can be finished with paper or plaster, to

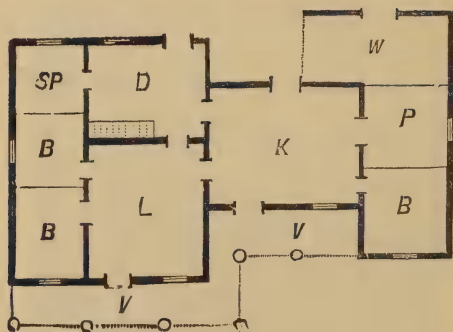


Fig. 6.

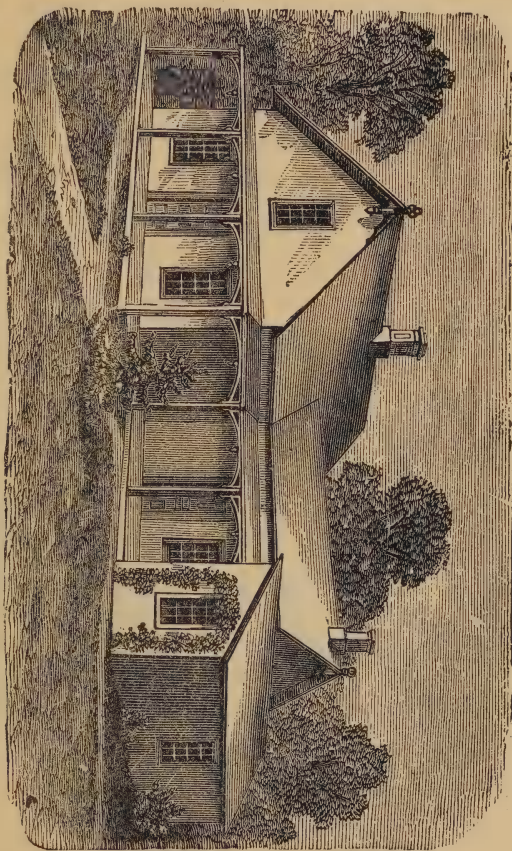
suit the taste of the occupants. Again we will suppose that "the lapse of years has brought round the time" when our friend wishes to again enlarge his house.

If he has followed our former plans, he will do so, as shown in Figs. 6 and 7. This consists of an upright part added to his former erections. He now, of course, has means sufficient at his command, and will call in the aid of a practical architect. He can build this last part two stories high if he wishes, but we would advise a low house in a

prairie country. We think this will make a very convenient house, not devoid of beauty.

Plan, Fig. 3, is a room 12x14; V, veranda.

Fig. 7.



Plan, Fig. 5, K, living room, 12x14; B, bed-room, 8x9; P, pantry, 8x8; W, S, wood-shed; V, veranda.

Plan, Fig. 6, L, living-room, 12x13; K, kitchen, 12x14; D, dining-room, 9½x12; B, B, B, bed-rooms, 9x8, and 8x8; S, P, summer pantry, 8x8; P, pantry, 8x8; W, wood-shed; V, V, veranda.

The summer pantry can be used in winter for a place to keep meat, and as a store-room. Being away from the kitchen fire, it will keep meat fresh a long time in suitable weather.

The cost of the last design (the third addition) will not exceed \$1,500, and could probably be built for less if one would do as much of the work as possible himself.



CHAPTER XIV.

AN ATTRACTIVE COTTAGE HOME FOR PEOPLE WITH SMALL MEANS.—HOW CONSTRUCTED.—THE COST.—HOW TO PAINT IT.

≡ DESIGN II. ≡



WE give in Figs. 8 and 9 illustrations of the arrangement of the rooms on first floor, and perspective view of front and principal side of an attractive little cottage, neat and well proportioned, simple in design, and easy of construction, there being but little ornamental work used, as shown in the elevation. A course of sawed panels across the front, set in square frame-work, and the projection of the second story over bay, with its two large brackets on either side, give a fine outline to the front, with the relief of cut slat patterns under projection and over the windows in front gable; and this, together with the simple cut figures in the entrance porch, is all the real ornamental work on the house. The fact is that the exterior effect in the cottage depends more upon the outlines of corners, projections, and angles of roof, than upon anything else, and is an example of what can be done without much ornamen-

tation and still claim merit from its attractiveness. The roof should be shingled and painted a dark red, while the body of the house should be painted an olive green, and the trimmings, that is, cornices, corners, porch and bay-window, a dark chocolate, with corners, or chamfers, where there are



Fig. 8.

any, in vermilion. The effect, if the house is standing alone, with trees and shrubbery around, will be pleasing. So much for the exterior.

Fig. 8 shows how the rooms are placed on first floor, the porch opening into a lobby and from this either into

living-room or kitchen. We would suggest that it would be a good plan to have a small room in the rear for cooking in summer, which could be added at small expense.



Fig. 9.

The small room marked "coal" could, if thought advisable, be opened into the kitchen and used for a store-room. A pantry of ample size will be found convenient, having shelves on three sides, and also a good closet off from living-

room, and one under stairs, unless there is a cellar under the house, in which case the stairs to the same would have to be placed under the staircase leading to the second floor.

On the second floor there are two good sleeping-rooms, there being a small hall at head of stairs extending along side of stair-way to front room, and doors opening into this and the rear bed-room immediately back of it. Two closets are between the rooms, one for each. The rear chamber is lighted with two windows, coming up into the roof, one on the side and the other in the rear.

This completes the number of rooms, and we have four good-sized rooms and plenty of closets. This we think an excellent plan for a small family of little means, who are desirous, if they cannot have so large a house, to have one that possesses some degree of taste and refinement at least; and there is no reason why the cottage homes of our people should not be made more attractive when it can be done by so little well-directed skill in planning and executing; for many times the cottage, with its simple adornment, is the abode of more genuine happiness than ever passed the thresholds of some who live in palatial homes, and are surrounded with all the luxury that money will buy.

This design would make a very good summer cottage, if desired, in which case it would not necessarily need to be plastered. At present prices, this house can be built here, all complete, for six hundred dollars.



CHAPTER XV.

A NEAT, SYMMETRICAL STORY-AND-A-HALF HOUSE AT MODERATE COST.—DESCRIPTION OF ITS ARRANGEMENT.—ITS ADVANTAGES OVER A ONE-STORY HOUSE.—SOME NOVEL FEATURES.

DESIGN III.



E present in Figs. 10 and 11, first and second floor plans, with front elevation shown in Fig. 12, of a story-and-a-half cottage. Two of these have recently been completed for the author, for renting purposes, and he considers this design the nearest approach to an ideal neat, cosy, tasty cottage home that he has ever made, for the amount they cost.

The house consists, as will be seen by referring to first-floor plan, Fig. 10, of portico L, vestibule K, 5x5 ft., and opening into parlor A, 12x14 ft., and also to sitting or main living room B, 12x14 ft., which is connected with the parlor by a sliding door four feet wide. Off the sitting-room is a bed-room D, 8x10 ft., and a clothing closet G, under the stairs, for the accommodation of the same.

From the sitting-room, door I opens to an easy stair-way

laid open, thereby effectually keeping out dampness and frost. The floor is concreted, and a tile drain connected with sewer laid inside of the walls. The door from the kitchen in the rear opens out to a platform with steps leading down each way, one to the walk around to the front, and the other to water-closet J, which is connected directly with the sewer.

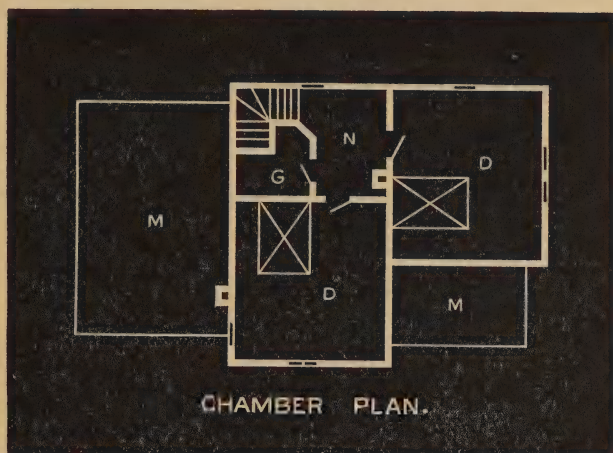


Fig. 11.

On the second floor we have, you will observe by referring to Fig. 11, ample hall room N, with window. The two rooms marked, D, D, are sleeping-rooms, 12x14, and from the hall is one large closet for both rooms. M is an unfinished attic over kitchen, with door from the large closet, and is used only for storing trunks or things not frequently wanted.

The compactness of the house makes it easy of access to the different rooms and easy to warm; indeed, one medium-

size *base burner*, set in the living-room, will warm the whole house, except the kitchen. In the ceiling, immediately over the stove, we have a register opening into the room above, and one in front room to the chamber over it; these registers can be closed during the day, and in the evening by opening them and running the fire a little more briskly, the sleeping-rooms can easily be made warm enough.

The objection is sometimes made that the sleeping-rooms in a story-and-a-half house are too warm in summer; such, however, is not the case if the windows in these rooms are arranged in the manner shown in Fig. 11, or in a similar manner, with not less than two in a room and always on two sides. If one window can face the south or west, so much the better, as a good ventilation can be had at all times.

The side walls are sixteen feet and six inches high from top of sill to top of plate; the first story is nine feet and six inches between the floor joists, leaving the outside wall of second floor six feet and four inches from floor to where the angle of roof rests on the plates, and in the center the rooms are nine feet high. The rear or kitchen part is twelve-foot studding, thus leaving ample room in the attic for storing purposes. We think the exterior presents nice and graceful proportions.

The design depends for effect as much on the outline and painting as upon anything else. Across the front and sides is a water-table; and from this up to the window-sills, the wall is sheathed with matched sheathing, and the sill course extended around over this and cut into panels with cross-bars in the manner shown in the elevation. The window-casings connect with a band or belt course at the

caps, while the double window in the second story is connected on each side with the caps of the two windows below, by a piece cut in a symmetrical form; and in between these the panel is covered with shingles cut in a neat pattern.



Fig 12.

The gable is divided by a band and shingled in the same manner, as is also the end of veranda.

On the top of the roof, over each gable, is placed a neat finial of wood, and the gables are finished with a verge-board of unique design, placed immediately back of the fascia. This gives a very pleasing appearance. The front door has glass in top panel to light the vestibule. Steps with rail and posts on each side lead up to the veranda.

We have painted the house in the following manner: The body, or parts of the house clapboarded, and the panels under sill course, are an olive-green; all trimmings, including cornices, window-frames, bands, veranda, and cross-pieces in panels, are a dark chocolate; the cut shingles in gable and veranda are a bright red; while all the trimmings of chocolate color have chamfers cut in with vermilion, the sash also being vermilion. The effect and harmony of these colors are very pleasing.

We wish to say a few words, comparing this six-room, story-and-a-half house, costing, in Detroit, thirteen hundred dollars, with a one-story cottage containing the same number of rooms, all on the first floor, and costing the same amount.

In the first place, the cottage must necessarily cover more ground in order to obtain the same amount of room, and this must be in width as well as length; hence the advantage in building on narrow lots; we have much more ground left for a lawn at the side, and also for a yard in the rear, as well as more light and air, which are of consideration.

In the second place, the height of the walls of a one-

story cottage must be twelve feet, only four feet less than the other; the amount of roof must be as much more as would be required to cover the amount of two sleeping-rooms on first floor, (and these rooms cannot be as large as those in the story-and-a-half house), usually with one window in a room, or if there are two, they must be on the same side. The result will be small sleeping-rooms that can never be ventilated as well as a room on the second floor, with windows on two sides.

And again, do what you may in the way of embellishment outside, you can never produce on the one-story building that symmetry of outline and beauty of proportion so easily obtained in the other; therefore we think that these considerations are decidedly in favor of the story-and-a-half house, and worthy of the careful attention of any one interested in this class of houses.



DESIGN IV.—STORY-AND-A-HALF HOUSE.

We follow here with another design of a story-and-a-half house, the first floor plan being seen in Fig. 13, and a fine perspective of the front and one side in Fig. 14, showing the house and lawn as they actually appear when completed. This building is not so high as the one last described, the posts being 14 feet, making the rooms on first floor nine feet, and on the second, four feet and six inches at the side, and eight feet six inches in the center of the room. For the difference in cost we would not recommend a house with rooms so low. The outside, while decidedly plain, possesses something that commands attention.

The broad, sheltering cornice gives to it the appearance of ample protection from sun and storm; the hooded windows in front and inviting porticoes with climbing vines lend to it a charm which must impress one that the inmates of a home like this should enjoy their share of worldly bless-

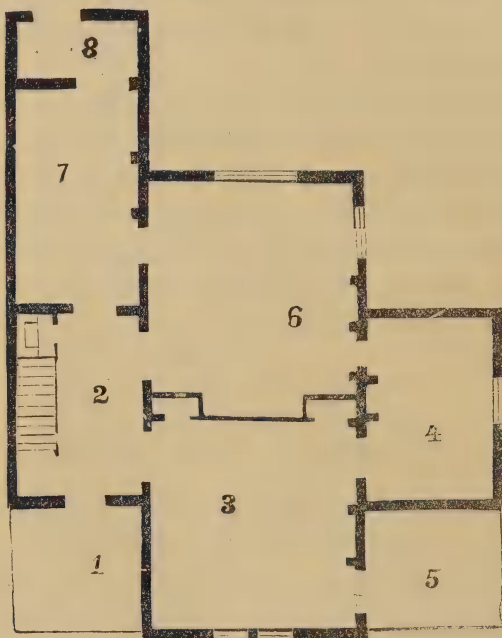


Fig. 13.

ings, such as belong only to those who have worked hard and perhaps long to come into possession of such a place.

The outside walls are covered with clapboards, and the roofs, including hood and porticoes, are all shingled.

The first floor plan, Fig. 13, shows; 1 and 5, porticoes, 1 opening into front staircase hall, and 5 into parlor 3, which is 15 ft. square; this is connected with hall 2, 9x14 ft., with a neat staircase to second floor and closet underneath.

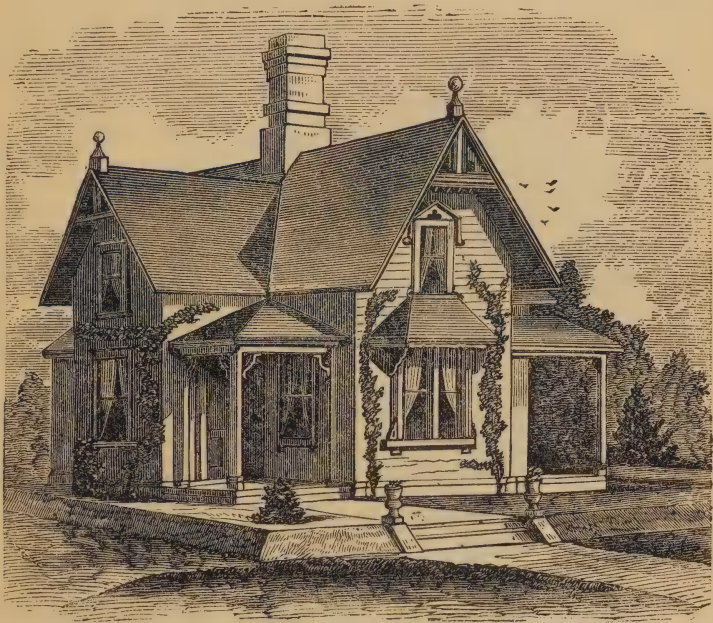


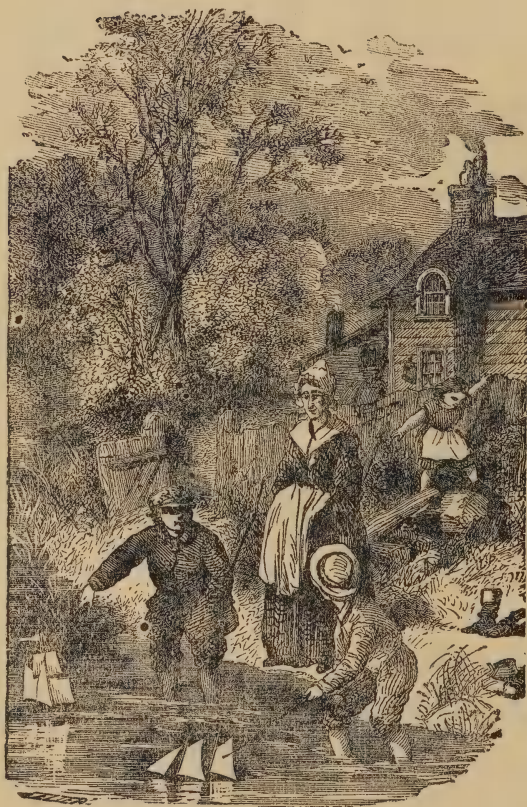
Fig. 14.

From the parlor is a room for library 4, 11x14 ft., with door to sitting-room 6, 15x16 ft., with double window in the rear, also door to hall and to kitchen 7, 9x16 ft., and back of this, pantry 8, 5x9 ft.

On the second floor there are three good rooms, one over

parlor and one over sitting-room, with a hall running cross-wise of the building, from where the stairs land to the room over the library. These rooms are all lighted from windows in the gables, and each room is supplied with a commodious closet.

At the present price of all kinds of material and labor, this building can be erected for about \$900.00.



CHAPTER XVI.

STORY-AND-A-HALF HOUSES CONTINUED. — A HOUSE THAT WILL ADMIT SUNLIGHT TO EVERY ROOM.—APPEARANCE MADE SUBORDINATE TO ARRANGEMENT OF ROOMS.—AN EXCELLENT FLOOR PLAN.

≡ DESIGN V. ≡



E give in Fig. 15 first-floor plan, and in Fig. 16 perspective view of a fine and commodious story-and-a-half house well adapted for a country or suburban residence. It is well adapted for a corner lot, but if it is of good width, an inside lot will do.

By referring to first floor plan, Fig. 15, it will be seen that this house contains much more room and on a scale more elaborate than anything yet shown in the preceding story-and-a-half houses, and of course costs more.

A is the fine, large veranda, and from this the front or principal entrance opens to main hall B and spacious staircase, with window on the landing, of stained glass in rich, harmonious colors, admitting a beautiful, subdued light into the hall below.

C is the parlor, 13x17 ft., with a broad bay-window on

the front, adding much to the dimensions and appearance of the room as well as to the external effect. Opposite this is an open grate, facing the window, whose cheering flame can be seen from the street by the passers-by, if the blinds are open. Who is there, that may chance to be out on the street on a cold winter night, who does not admire the view of the light of the open fire flickering through the window, suggesting warmth and comfort to those within?

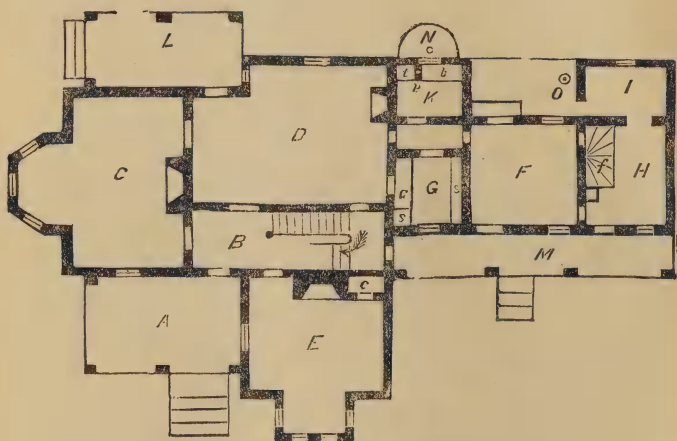


Fig. 15.

E is the library of ample size, with a square bay-window on the front and a window out to veranda; it also has a grate and mantel with a closet in one corner of the room on the side of the grate.

D is the sitting or main living room. It is large, and connects with hall and parlor, with door out on the veranda L. It also has a grate near one corner. From this room

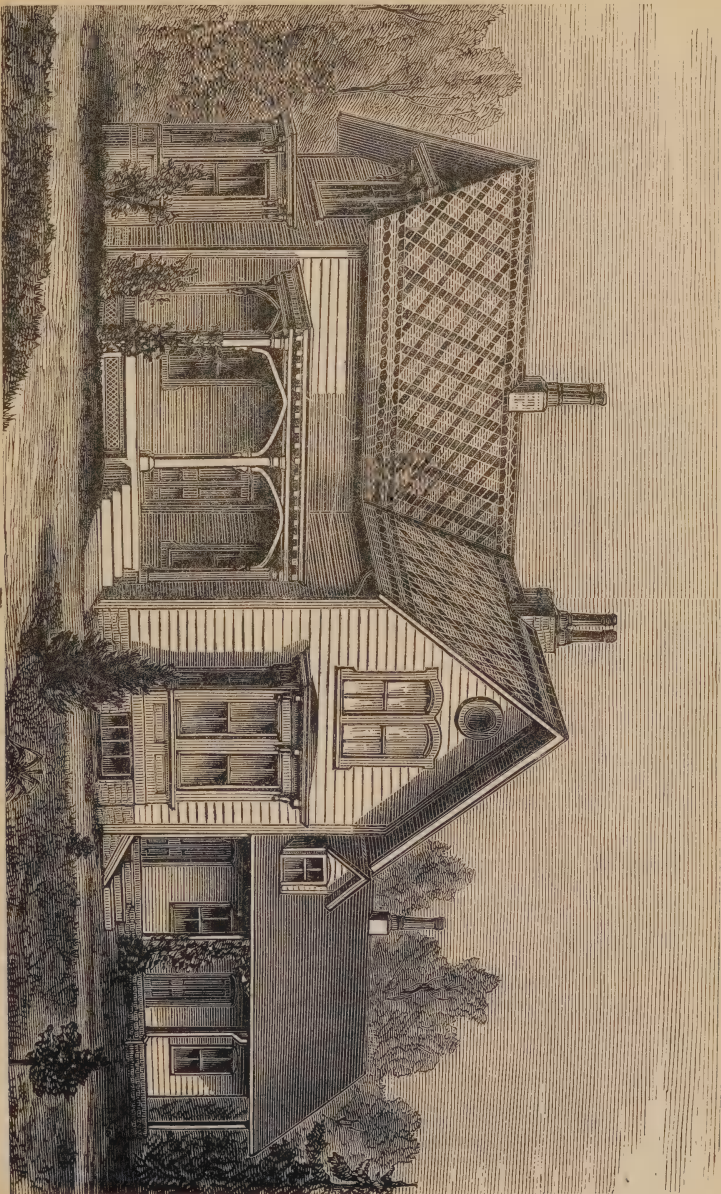


Fig. 16.

a narrow hall-way leads to dining-room F, with doors on each side of hall-way, one opening into a large china closet, and the other to bath-room containing bath-tub and wash-basin.

The dining-room is very pleasant, as windows and sash doors open out on each side to verandas, and admit plenty of light and air.

H is the kitchen with a stair-way F to attic, and cellar under, and a window and sash door to veranda. On the opposite side, adjoining the kitchen is a large pantry I, fitted up with plenty of shelves, cupboards, and drawers; a door from this leads to veranda where there is a pump O to cistern, and other conveniences. A sink is located in the pantry, it being large enough to admit of it.

On the second floor we have three fine, large chambers, all opening from the hall, and each supplied with a commodious closet. Over the dining-room part is located a servants' room and a store-room.

The outside, although quite plain so far as decorative effect goes, presents a very neat appearance; and with so many broad verandas on each side of the house, it suggests comfort outside in the summer time.

A fine roof of slate, cut to a nice pattern, and laid in two colors and with the ridge surmounted by *terra cotta* chimneys, adds in a large measure to the pleasing appearance presented by the design.

Completed, the house would cost, \$1600.00.



CHAPTER XVII.

A RURAL COTTAGE HOME.—A PLAN THAT COMBINES CONVENIENCE AND BEAUTY.—SIMPLE ADORNMENTS THAT ADD TO COMFORT.—PERSPECTIVE VIEW OF A PICTURESQUE GOTHIC HOUSE.

» DESIGN VI. «



IN the plan, Fig. 17, and the prospective, Fig. 18, we present what may be appropriately termed a RURAL COTTAGE HOME. The first floor, Fig. 17, shows a very complete arrangement of rooms, consisting of large parlor, hall in the center of house, the dining-room being of the same size as the parlor, with the front end beveled, giving it the appearance of a bay-window. A double window is in this end, and china closet on one side, with a private pantry on the other. A door from one corner of this room opens into the rear hall, which is cut off from the front hall by door C, with a small closet in the back end and a cellar door and stairs under main stair-way. The kitchen is of good size, with a back entry, pantry, and store-room off from side.

In the rear of the parlor is a child's room and a fair-sized bed-room. On the front, off from the main hall, is the



Fig. 18.

study or sitting-room, with two closets on each side of a mantel, and grate in the center, there being one on the opposite side from this in the dining-room, both using the same chimney.

The door A should be glazed, as it comes opposite to the window in the bed-room, and will serve to light the hall. The second-floor plan contains five bed-rooms all accessible

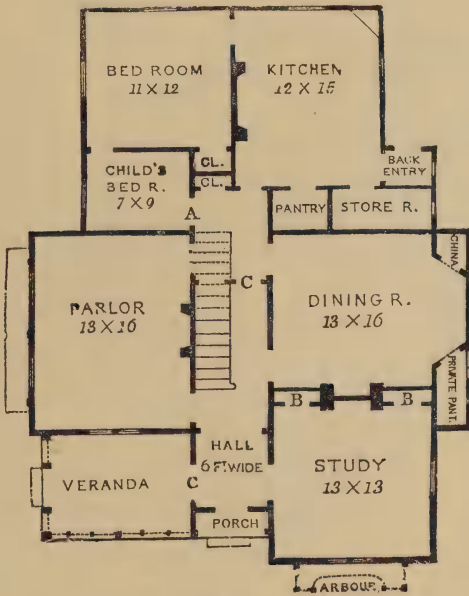


Fig. 17.

from a central hall-way at the head of the stair landing, and all being accommodated with closets.

The main posts being 16 ft. long, the first story should be 9 ft. and 8 in. between timbers; and the second story 6 ft.

4 in. on the sides, and 9 ft. through the center. The outside walls are intended to be boarded vertically with ten-inch boards with molded battens over the joints.

We think the exterior of this cottage admirable; the rustic veranda and trellises over the doors and windows are intended for vines, not merely as supports for them, but to give thereby an air of rural refinement and poetry to the house.

Cedar poles are the best for trellises, but other accessible woods may be used, and the bark should be left on. The embellishment with vines may be cheaply and quickly secured by any person of taste who knows how to select, plant, and train them; and they should be selected, planted, and trained by every person who lives in such a cottage. Such garniture is the best external evidence of refinement and good taste that can be employed; and as an educational agency in a family, nothing is more potent nor gives greater pleasure.

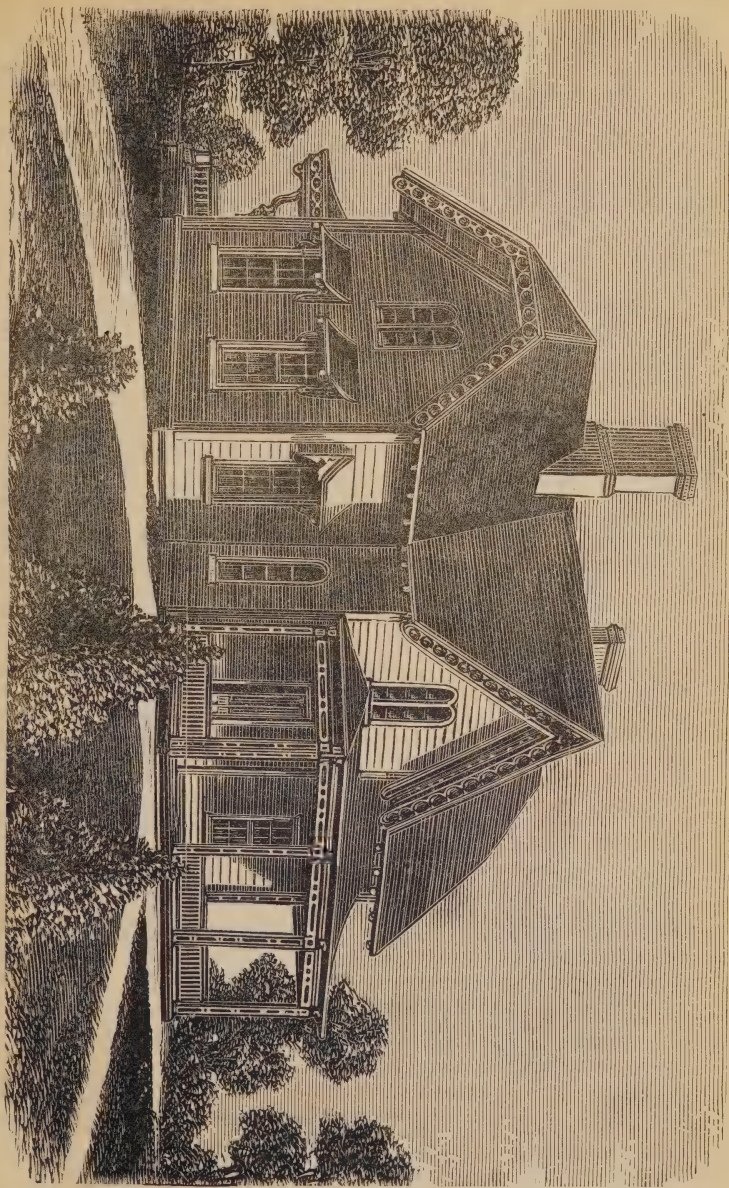
This cottage would probably cost near \$1500 but a cheaper one with the same rooms and conveniences could scarcely be devised.



DESIGN VII.

In our illustration, Fig. 19, we give a perspective view of a picturesque and most admirable exterior of a modern gothic-roofed story-and-a-half house. This is particularly adapted for a country house or suburban residence with plenty of room around it, and should be set on an elevation, the ground sloping away in all directions, with plenty of

Fig. 19.



surrounding shrubbery. The clipped or hooded gables, trimmed with neat tracery and broad projections of roof and cornices, with wide veranda and canopy tops over the windows, all do much toward making up the general form and graceful outline of the house.

The first floor contains four large rooms; viz, parlor, sitting-room, dining-room, kitchen with pantry, and bath-room, besides a fine hall and easy staircase. On the second floor are four good bed-rooms and a closet to each, with a hall opening into all rooms.

The sides of house are clapboarded in the usual manner and the roof shingled. The house should be painted on the outside in two modern colors of light drab or stone color for body, and darker trimmings. Such a house, furnished in first-class style, would probably not exceed \$1700 in cash.



CHAPTER XVIII.

MORE DURABLE MATERIAL.—A SOLID GOTHIC HOUSE.—STYLE,
NOT NEW BUT POPULAR.—DESCRIPTION OF THE PLANS.
—COST OF ERECTION.—DESIGN IX.—EXTENSIVE FARM
RESIDENCE AND BARN.

≡ DESIGN VIII. ≡



E now pass to a house composed of material more durable and costly. Figs. 20, 21, and 22 present a design of a building intended for a farmhouse, to be built of stone. The leading ideas in the arrangement of the rooms were compactness and convenience, something less pretentious but fully as cosy, if the main stair-way *is* made to take a subordinate position from the usual place assigned it near the front entrance. A is the porch in the base of the tower, with front entrance opening directly into the main living-room C, 15x15 ft. The parlor B is the same size as the living-room, with which it is connected by a door, which might be a sliding door if desired. D is the library, or owing to its location away from other rooms, could be used for a sick-room when occasion might require it. This room is 9x11 ft., a good closet for its accommodation being made

under the staircase. The kitchen E is $11 \times 12\frac{1}{2}$ ft.; bed-room F, $7\frac{1}{2} \times 10$ ft., with closet J, off from it; pantry G, 8×10 ft.; hall H; wood-shed I, 15×15 ft.; closets J, J, and veranda V.

On the second floor are commodious sleeping-rooms, N, O, L, and F, all of which are well-lighted and have good closets J, J, J, J. A hall-way, H, H, runs from in the tower to main and rear staircases, and the room M is for a servant's room,

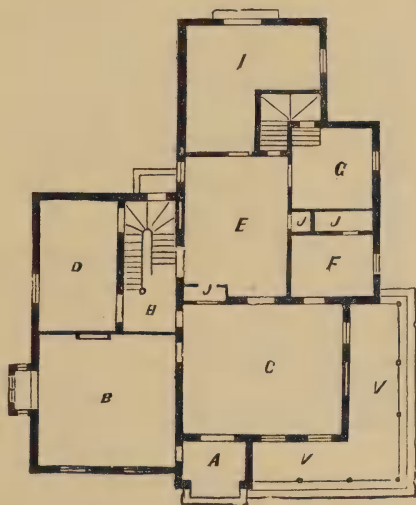


Fig. 20.

K is the balcony on tower, and a narrow stair-way, with rail, leads from main hall up to the tower observatory.

The general form of the outer walls is such as admits of a picturesque outline in the elevation, and in the treatment of the exterior finish the expenditure has been spread out in simple embellishments over the whole structure rather than concentrated upon an elaborate cornice.

This design, we are well aware, is not altogether new, neither did we intend it should be; it is simply a study of the old gothic forms of architecture, whose pleasing outlines can never become old to the lover of the beautiful. This house, if built of stone as designed, will not only impress the beholder with a sense of quiet repose and harmony, but

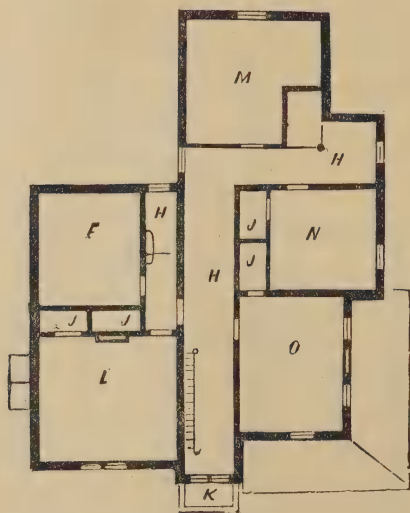


Fig. 21.

it will have the effect of strength and solidity combined with its outward appearance.

This building might be erected of brick or wood, in which case the plan of windows and doors might vary slightly from that shown in the illustration. We should, however, recommend the use of stone, when the cost of the building complete would be near \$5000.00.

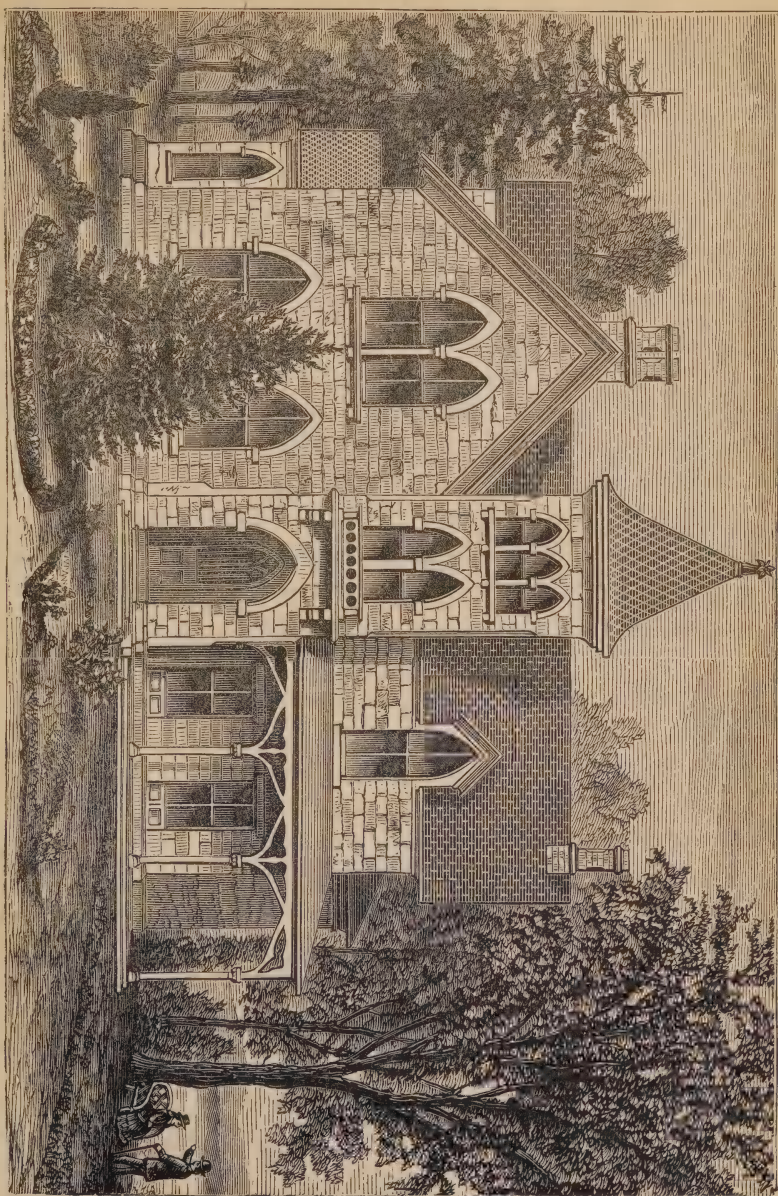


Fig. 22.

DESIGN IX.

We present in Fig. 23 first-floor plan, and in Fig. 24 perspective view, of an extensive farm residence and barn, that we think are very complete in their appointments throughout.

Scattered far and wide over the land, we now find a great many elegant and comfortable homes among the farmers, the majority of whom, not many years ago, commenced life with very little of this world's goods. Some, settling down in the dense forests, and others on the broad prairies, have by their own indomitable perseverance and energy and the strength of their arm, swept away the forests, and turned into flowering fields the desolate wilds of the prairies, where tall grasses were shaken by the morning winds, or trodden beneath the feet of the wild beast.

The fertile soil produces such abundance that it has been said that America could feed the nations of the world if necessity should ever require it. We all know full well the mighty power that lies in the tillers of the soil; and it is with pleasure that we note their enterprise in erecting beautiful homes and comfortable farm buildings where they can enjoy the fruits of their labor.

The following is the description of the plan of rooms and out-buildings, accompanying the elevation: On first floor, 1, 1, porches; 2, 2, vestibules; 3, hall, 8 ft. 4 in. wide; 4, sitting-room, 15x15 ft.; 5, parlor, 15x15 ft.; 6, library, 9x15 ft.; 7, dining-room, 15x18 ft.; 8, kitchen, 13x24 ft., including stair-way to cellar, a milk-room being underneath kitchen in basement; 9, pantry, 6x12 ft.; 10, wash-room or laundry, with arch, kettle, back staircase, etc.; 11, 11, water-closets; 12, open shed, 29x24 ft.

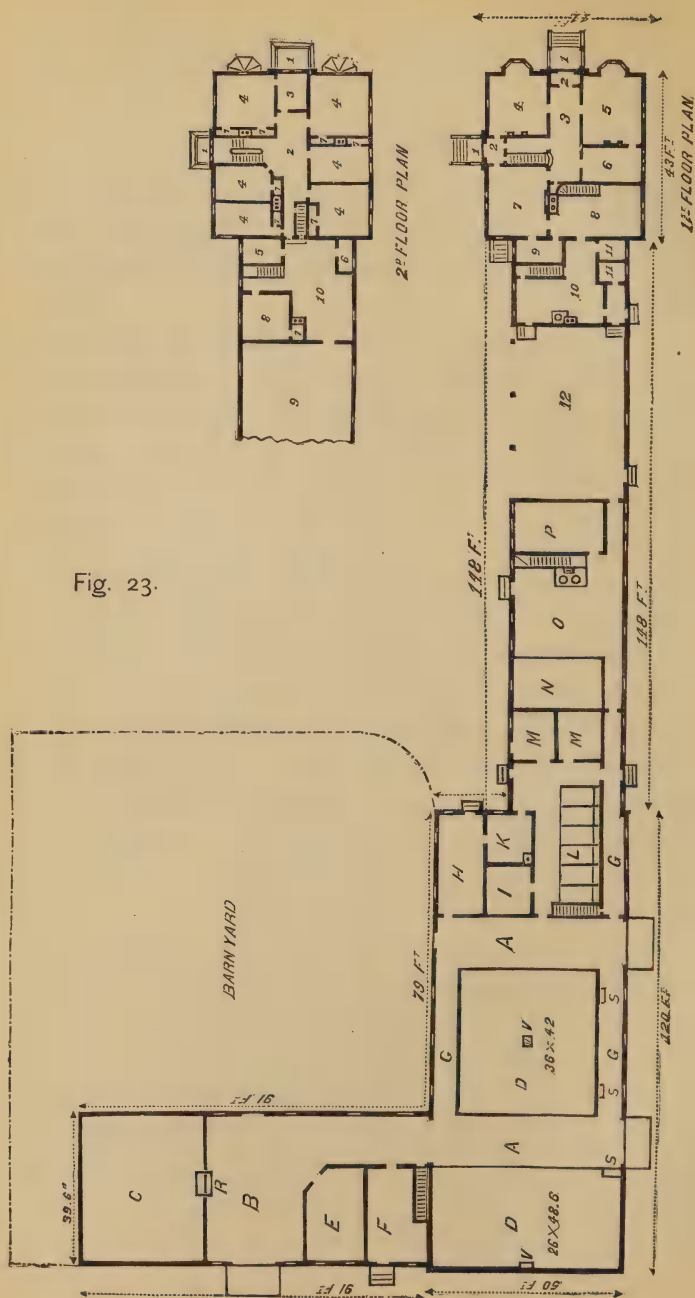


Fig. 23.

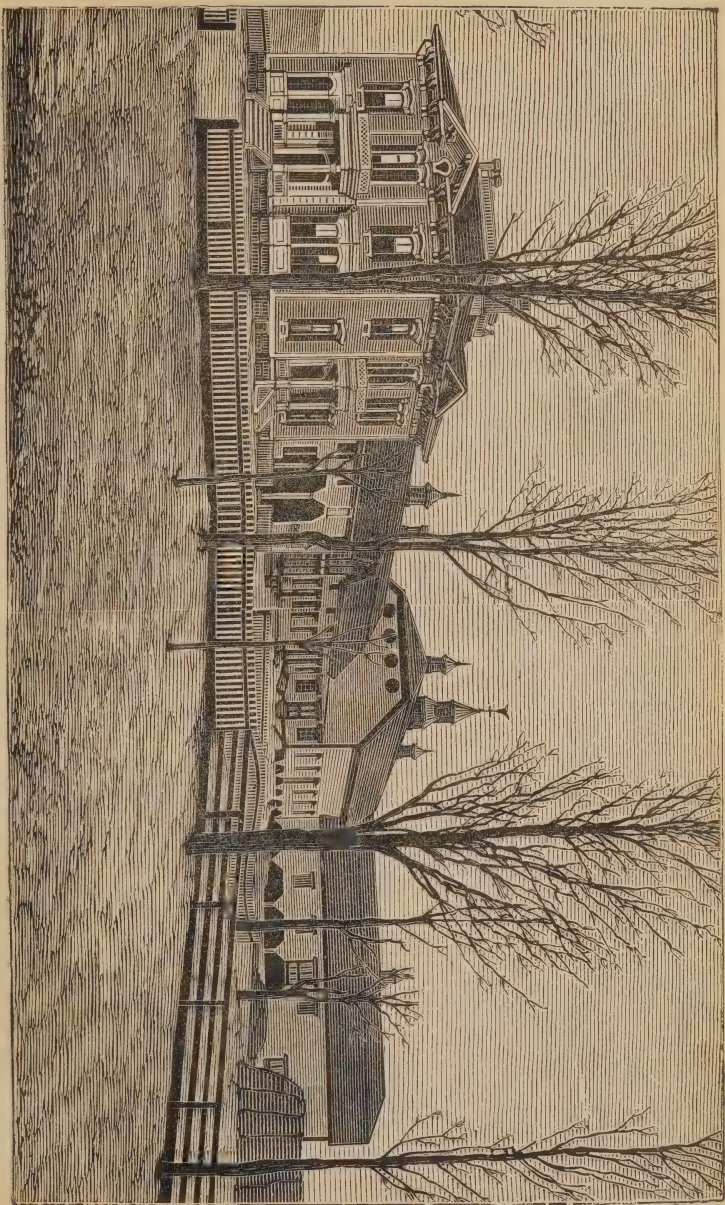


Fig. 24.

On the second floor is a balcony over each of the porches, a hall extending through the middle of house over the one below, six large sleeping apartments, ample closet accommodation to each, linen closet, and bath-room opening off from the hall, and in the rear part, two servants' rooms of good size.

Plan for barn: Cattle stable and root cellar in the basement; A, A, floors, 13 ft., with scaffolding overhead; B, threshing floor, 26x38 ft.; C, grain bag, 32x38 ft.; D, D, hay mows, 26x48 and 36x42 ft.; E, granary, 15x24 ft.; F, room for large tools, 16x24 ft.; G, G, passages from one barn floor to the other, 6 ft. wide and 7 ft. high; H, tool room, 12x24 ft.; J, feed room, 11½x12 ft.; K, harness room, 12x14 ft.; L, horse stalls, 5 ft. wide; M, M, box stalls, 12x12 ft.; N, hog-pens, with run-way under the floors to manure pit in the basement under horse stalls; O, cook-room with arch, kettle, etc., 28x39 ft., including the hog-pens; P, hennery, 13x23 ft.; R, chute for straw to bay in basement; S, S, hay chutes; V, V, ventilation. Such is the arrangement for the barn and its accessories.

It is not only most gratifying to have good buildings and things made convenient for the care and protection of the live stock, farm implements, and produce of the farm, but it pays to have these things well cared for. Regarding the cost of such a series of buildings, it is not easy to make an estimate, from the fact that much that is needed on one farm can be dispensed with on another of less size.



CHAPTER XIX.

AN ELEGANT BRICK RESIDENCE.—COMFORT AND BEAUTY
COMBINED.—DESCRIPTION OF PLAN, MATERIALS, AND
CONSTRUCTION.—DESIGN XI.—A MODERN VILLA.

DESIGN X.



OUR illustrations, Figs. 25 and 26 are the first floor and perspective of an elegant brick residence, designed by the author and erected in Detroit at a cost of five thousand dollars. It illustrates in a striking manner the advantages of brick over stone as a material for building, for by its use any desirable rectangular form can be secured without the expense of cutting and fitting, as is the case in stone work.

This building makes a very imposing and picturesque appearance, and the arrangement of the rooms is such as to secure the admission of sunlight and to afford an excellent view of the street from the principal rooms.

The foundations, laid of stone, are 18 inches thick, with a cellar 7 feet in the clear, extending under the entire house. The laundry, which is situated in the cellar under the kitchen, is supplied with three laundry tubs, hot and cold

water, and a water-closet; and under room E of first floor is the vegetable room, opening from the laundry. The remainder of the cellar is occupied by the heating furnace, fuel, and store-rooms, the furnace being bricked in and having hot-air pipes extending to the three main rooms and hall on first floor, and to the chambers and bath-room on second floor. Under and around the house is laid a complete system of drainage-pipes, and the floor of cellar is laid with concrete.

The plan of the first floor is shown in Fig. 25: A is the portico, extending around the curved platform and connecting with the veranda O, making a fine double entrance by one flight of steps. Black-walnut doors of a pleasing design open into the hall B, 9x18 ft., from which, at P, ascends an elegant landing-stairs finished in butternut and black-walnut, the newel post being square and of an unique design, with a rail of butternut neatly cut and molded.

The parlor C, $13\frac{1}{2}$ x18 ft., is so constructed as to give it the appearance, in front, of a bay-window the whole width of the room. This is a very pleasant feature, both of the parlor and the room above, as it gives, to one standing in the front of the room, a view of the street in both directions. D is the back parlor, or sitting-room, $13\frac{1}{2}$ x16 ft., opening from the rear of which is a toilet-room L, containing wash-basin, with hot and cold water, and a closet, and K, a clothes or general closet.

The dining-room E, 12x16 ft., is reached by side entrance, hall, or rear parlor, and the three main rooms and hall are easily thrown into one grand reception-room, by means of broad, sliding doors that run on tracks overhead, thereby leaving nothing in the way of carpets extending

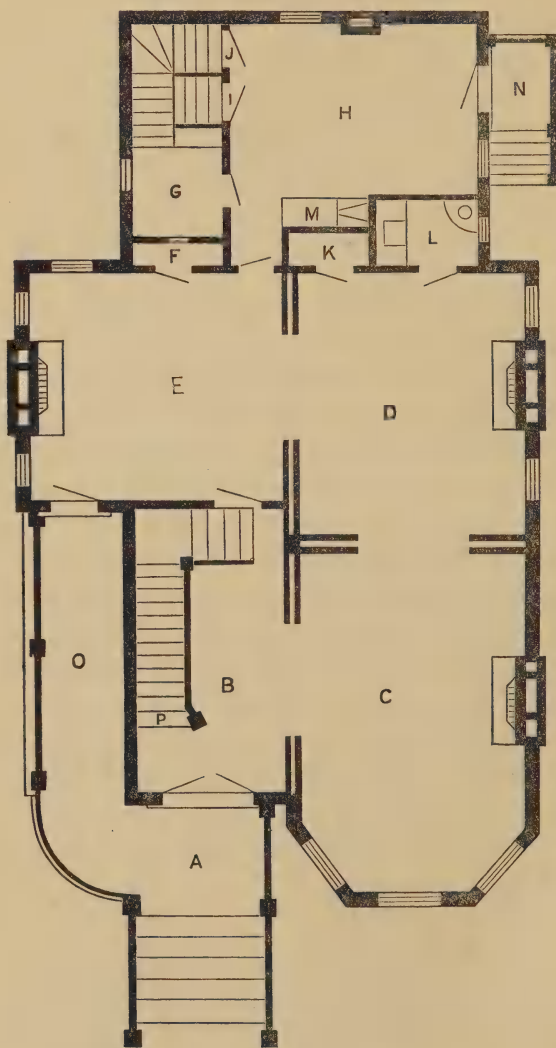


Fig. 25.

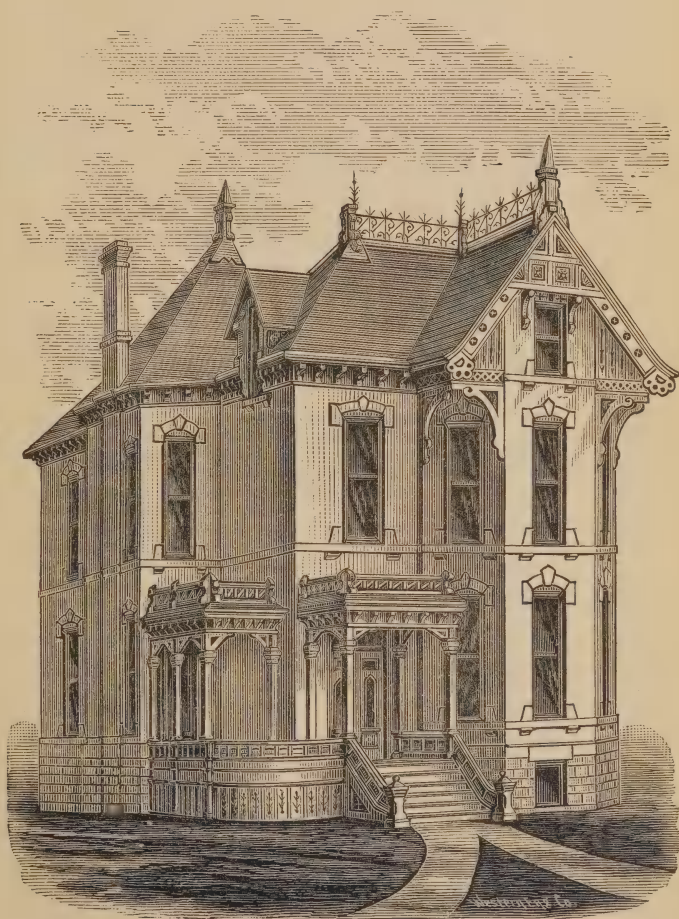


Fig. 26.

throughout these rooms. Each of these rooms is provided with a grate and elegant mantles of slate.

Connecting with the dining-room is the kitchen H, 12x16 ft., from which opens a commodious pantry G, stair-way I to cellar, rear stair-way J to second floor, outside entrance N to basement, and the china-closet M.

A cut of second floor is not necessary, as it is arranged similar to the floor below, excepting that a hall four feet wide runs from front to rear, giving direct communication to all the chambers; and the bath-room, fitted up with copper-lined bath-tub, a wash-stand, and a best Alexander water-closet, is located over toilet-room L. Each chamber is supplied with a closet, and a large linen-closet with shelves and drawers is placed over rear stairs.

The front hall on this floor extends from front window over portico to the window at head of rear staircase. This arrangement secures a free circulation of air through the hall and rooms when desired.

The attic, which is reached by a narrow, inclosed staircase over the main stairs, can be finished into three good, comfortable rooms.

The windows are trimmed with best Ohio buff sandstone, and the brick-work is stained and the joints penciled black, which arrangement shows to excellent effect. The roof is of best Pennsylvania black slate, cut a hexagonal pattern, laid over roofing felt, and is one of the attractive features of the building. Iron cresting and finials of peculiar design ornament the ridges of main part of roof, and the cresting, portico, and veranda are of wood.

By referring to the perspective view, it will be seen that the front gable, forming the angles for the bay-shaped rooms,

extends out over the front in the same manner as it would if the entire end were square. The projecting cornice that overhangs the angles is supported on two massive brackets, springing out from each angle and joining under the cornice.

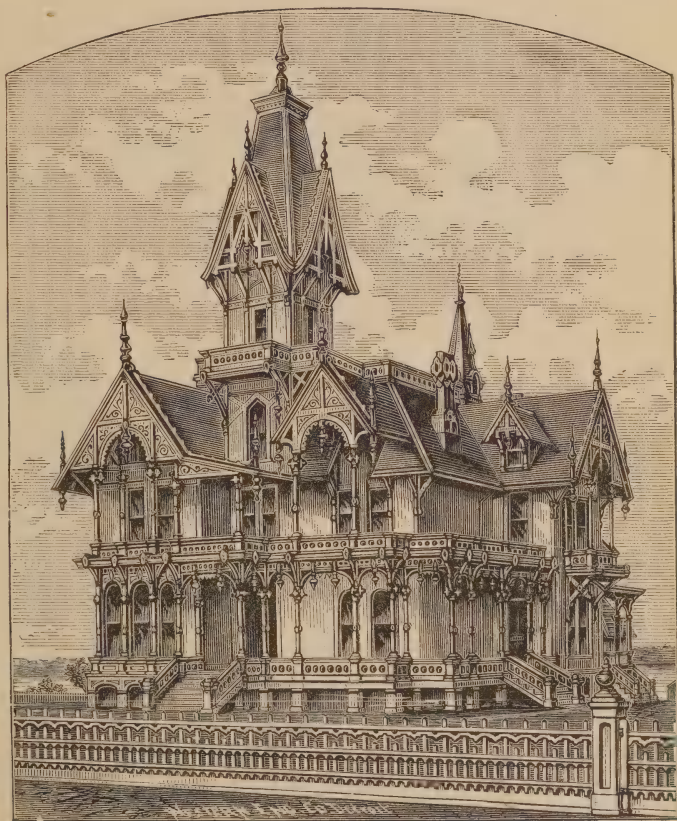
The front is filled with neat tracery, which, with the supporting brackets, verge-boards, etc., all combine to form an imposing front.

It is not egotistical to say that this building possesses to a high degree the requisites of convenience and comfort, with no small degree of taste, for the amount of money required in its construction. We commend it to all who wish a house of like cost and accommodations.

DESIGN XI.

Our illustration is a perspective view of a fine suburban villa of ample dimensions. The plans and specifications of such a residence should be made by none but the best architects, and those contemplating such a house will of course put its construction into none but the best hands.





J. HESS, Architect.

Fig. 27.

CHAPTER XX.

HOW TO BUILD A SUMMER COTTAGE.—CHEAP, BUT ATTRACTIVE HOUSES IN THE HOT SEASON.—HOW TO BUILD A RUSTIC ARBOR.—A FEW SUGGESTIONS ON BEAUTIFYING THE SURROUNDINGS WITH LITTLE EXPENSE.



As the warm season approaches, many persons, especially those in cities, are anxious to retire to some spot where they may escape the heat. Many go to the fashionable watering places, some to private boarding houses in the country, and not a few camp out by some lake or stream.

Generally such persons are able to bear the expense, and have a summer-house on a lot owned or controlled by themselves, located near some lake, bay, or stream, easy of access to the outside world, but far enough away to escape its anxieties. To such we offer a few suggestions.

We will suppose that a summer cottage for a family of four is to be constructed. We must have two rooms on the first floor, and the same number above for sleeping apartments. The plan and dimensions will be as follows: The house will be 13x25 ft., making the front room 12x12 ft.,

the back room, 10x12 ft. for dining-room, with a staircase between, $2\frac{1}{2}$ ft. wide, the space under staircase being used for a pantry. The same arrangement of rooms on second floor will answer. The roof can be extended out four feet over the front, and a veranda constructed for first floor, the roof of which will serve as a balcony to front sleeping apartment.

In the rear of house, we would construct a cook-room, or kitchen, with shelves in corners, 10x10, with a shed roof attached to main building. We now have the plan of the house, let us consider kind, quality, and cost of materials.

The structure will require thirteen foundation posts, 7 in. in diameter and not less than 5 ft. long; set four posts on the long sides, one in the center of each end, and three for the kitchen, costing not over \$2.60. Lumber for the building will be required as follows: 2 sills, 6x6 in., 25 ft. long; 3 sills, same size, 13 ft. long; 38 studding, 2x4 in., 14 ft. long; 14 studding, same size, 13 ft. long, for plates; 22, studding 12 ft. long, for kitchen walls and rafters; 34 pieces, 10 ft. long, for rafters and gable ends; 22 pieces, 2x8 in., joists for first floor, same number, 2x6 in., for second floor, all 13 ft. long; 6 pieces, 4x4 in., 9 ft. long, for veranda posts; and 7 pieces, 2x8 in., 10 ft. long, for floor joists of cook-room. This includes all the framing lumber required in the frame-work, and is not more than two thousand feet board measure, which would cost \$15.00 per thousand, or \$30.00

The covering boards for the outside walls should be of a good smooth quality of what is usually termed "barn boards," planed on both sides and applied vertically, and the joints covered with two-inch battens; 1300 ft. will be

required at a cost of \$20.00. 700 ft. of roofing boards, planed on one side, sound but not necessarily free from knots, will cost \$9.00. 5000 shingles for main roof and kitchen, at \$4.00 per thousand, \$20.00. The flooring, of pine or spruce, matched and laid in the ordinary way, 800 ft., at a cost of \$17.00.

For the main cornice use a simple 12-inch projection on rafters, with a verge-board cut in a neat pattern for eaves and gables; the rafters being planed no plancher will be necessary. The veranda is made by extending columns up to the roof with a railing of simple pattern around the upper floor or balcony.

There should be at least two windows in front room, and the same number in the rear rooms, all of common, plain frames, with two-light sash, 24x36 inches. One door opens to each front room, one to veranda and balcony, one between two upper rooms, and one to kitchen, no door being necessary between the two main rooms below. Partitions between rooms of main floors are of plain matched material, and the staircase a box stairs, forming a pantry underneath.

The foregoing includes in a general way the principal things needed for the cottage, and below are the figures giving approximate cost of material and erection:—

Framing material, ...	\$32.00
Covering boards, ...	20.00
Roofing boards, ...	9.00
Shingles, ...	20.00
Flooring, ...	17.00
Battens, ...	6.00
Moldings, verge-boards, etc., ...	15.00
Windows all complete, ...	20.00

Doors all complete, ...	\$12.00
Staircase and extra lumber, ...	6.00
Painting—two coats, ...	20.00
Labor of putting up the building, ...	50.00
Contingent expenses, ...	10.00

The whole cost need not exceed \$240.00, and in many localities it will come within \$200.00.

Hundreds of people can possess such a building for summer use, to which they may retire and spend the "heated term" in the most pleasant manner. Certainly the expense is not so great as to deter people in comfortable circumstances, besides the same amount would be spent in two summers, in boarding and other expenses, with far less real comfort.

HOW TO CONSTRUCT A RUSTIC HOUSE.

Where there is anything like spacious grounds around a house, that can be used for a lawn, nothing adds more to the attractiveness of the out-door scenery than a cosey, rustic retreat, covered with climbing vines, whose leafy foliage forms a most inviting welcome to whoever may seek shelter from the scorching rays of the summer sun, and rest upon the rude seats within. A rustic summer-house is quite simple to build, and a great variety of forms can easily be made if the material can be readily obtained. Cedar is the best and can be found in most localities; but spruce will do very well where cedar cannot be obtained. If one lives in the country, and the material is to be cut in the woods, it should be selected, for the most part, from small trees or saplings as near of a size as possible.

But a variety of sizes will be needed in trimming up, so that in cutting we may take some of both larger and

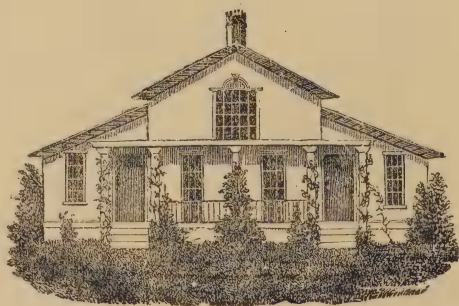
smaller sizes. Trim off roughly, that is, cut the small limbs not close to the body of the tree. Now, for illustration, we will build a small arbor, say 8 ft. wide and 12 ft. long. Of course, in selecting our material we must know first what we are to build, and select certain parts for certain places.

For the arbor we are considering, we must have six posts about 5 in. in diameter, one for each corner, and one in the middle of each side. These make our main supports for the superstructure. From the top of these carry across the eight-foot way stout poles and secure them in place; now on the top of the ends of these pieces we will extend pieces the reverse of the former and over the posts, thus making, as it were, the plates, which should extend over two feet at each end, the center pole extending parallel with pieces last mentioned, and of the same length; this center piece must be raised to the height of two feet above the others, and will rest on an upright piece set down upon the cross-pieces before mentioned. We now have the outline of our structure. The roof should be covered with poles two inches apart, extending over the eaves 2 ft. and joining in the center of the roof. The plates should be 9 ft. from the ground, and parallel with them, down 16 in. below, all around, place other sticks, and under the corners place braces. Between the pieces parallel with the plate, cut in cross-pieces close together, all around, and fill in the gables of the roof, pieces cut in any form that the taste may suggest. The sides and ends, except a three-foot opening in center of each end, must have a rail all around, three feet high, cut in between the main posts; also a piece around in the same manner near the ground; then fill in this space under the rails in any form that may be desired, and on each of the two sides make a seat of the smaller poles.

This completes our description of one simple form of making a rustic summer-house. Very little skill is required, nor many tools; a saw, hammer, and sharp hatchet are the main ones that will be required, with plenty of tenpenny nails for securing the work. Of course a little good taste in arranging the forms of roof and trimming the same, may add much to its symmetry. Some of the many kinds of climbing vines should be planted and trained to spread their foliage over the roof, and we have the arbor complete.

We have seen a very pretty rustic seat made by setting in the ground one large post and then from this building out like the bows of an umbrella for the roof, with seats all around the foot of the post. This makes a rather unique but attractive appearance.

A great variety of rustic seats can be made to place around under trees and in shady woods, that will harmonize with the works of nature much better than anything made from manufactured material, and which will not cost as much.



CHAPTER XXI.

ALTERATIONS AND ADDITIONS.—OLD HOUSES MADE NEW.—
CAUTION.—IMPROVING ROOFS AND GABLES.—REMODEL-
ING WINDOWS.



WHEN any alterations or additions are contemplated, they should receive the most careful consideration before the plans are put into execution; indeed, in many cases more study and good judgment are often required to successfully carry out alterations so that the new work will harmonize with the old, than to plan a new building of equal magnitude.

It not unfrequently happens that additions are made in such a way that they look misplaced, and add nothing to the appearance of the building. Nor is this all; it should be more definitely known how much is to be done, and how much it is to cost, than is usually the case. Frequently the matter is simply talked over, and a carpenter set to work by the day to tear down and build up without any definite regard as to when or where to stop, one thing after another calling for further alteration until the cost may exceed that of a new house.

This is the experience of many, and should be carefully avoided by those whose means are limited, and whose tastes are sensitive; for cost what the additions may, there are always left reminders of the old house. Our advice, where extensive alterations are needed, is to tear down the old house, and utilize the material as far as possible in a new one.

The services of an architect cannot be employed to better pecuniary advantage to the owner than in giving advice and making plans for alterations and additions; in fact, his services are almost, if not quite, indispensable in such work.

ADDITIONS.

In chapter XIII of this work will be found some practical illustrations of how additions can be made. If the house as originally built contemplated additions, little trouble will be experienced in the work, especially if the additions are in front and conceal the part first erected. The plan then would be very much like a new house with fewer rooms.

BAY-WINDOWS.

Bay-windows can usually be added to a house with good effect and an increase of comfort to the inmates.

The wall should be cut out the height and breadth desired, and the bay-window built out from the house. It is best to arch over the entrance to bay, as this separates the old ceiling from the new and counteracts the effect of contrast of old and new work.

If porticoes, verandas, cornice, verge-boards, or brackets are to be added, great care must be used to make the out-

lines of old and new work blend, as it frequently happens that such additions present anything but a harmonious appearance.

It is frequently desired to increase the number of rooms by building wings or rear additions; but unless a new front is added, the new must always be kept subordinate to the old.



Fig. 28.

If additions are to be made to brick buildings, the new wall must be joined to the old by cutting a vertical groove in the old wall four inches deep, and broad enough to receive the brick of the new wall, as when the courses of the new wall are locked into the old, brick for brick, there will invariably be settlement enough in the new to break every brick at the point of intersection; hence the reason for connecting by a groove which admits of settling without breaking. The joints of courses in new work should be laid a little above the old to allow for settling.

NEW ROOFS, GABLES, ETC.

If roofs need relaying, where the building is good, slate roofs may be put on over the old shingles to good advantage, using longer nails than usual to secure the slate.

If the building is old-fashioned, a marked improvement can be made by taking off the roof and giving it greater pitch, running up the chimneys and giving them a grace-



Fig. 29.

ful finish, and putting in a front gable with neat tracery and brackets. This plan can be carried out when a new roof becomes necessary, and its effect upon the general appearance of the building will be excellent, and if iron cresting is put on, so much the better.

IMPROVING WINDOWS.

The appearance of many good, substantial houses, especially in the country, is positively ruined by the low, square, unsightly, small-light windows. This can be remedied at a

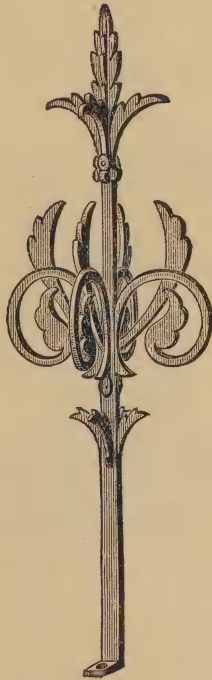


Fig. 30.

very light expense by tearing out the frames, cutting out from the top to the desired height for modern windows, and replacing the old many-light sash with new ones holding not more than four lights. The same treatment would improve many door-ways.

The alterations that will be necessary depend largely upon the construction and surroundings, and further suggestions would be superfluous. The author, however, wishes to again caution all who would remodel houses against the too frequent result in which the same amount expended would have secured a good, comfortable, new house.

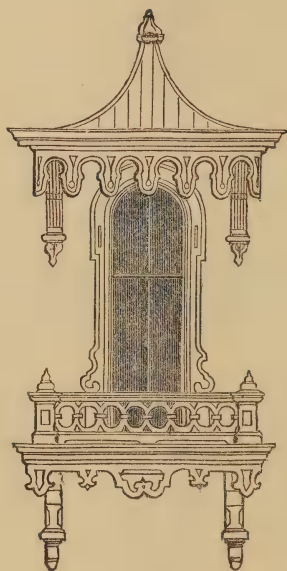


Fig. 31.

In the accompanying cuts are represented two very attractive designs of windows; one has a neat canopy top with curved roof and verge-board supported on brackets on each side and forming a fine outline; while at the bottom of the window is a small balcony projecting out from below the sill, with a railing round it, and this too resting on brackets. The whole combined makes a pleasing appearance.

The other cut, Fig. 32, has no canopy, but instead, a cap resting on brackets, while the casings on each side run down to the sill, forming a graceful outline. This also has a balcony similar to the other.

The window first described. Fig. 31, could be used with good effect in the gables of many wood houses, in the second story; the other one is better adapted to a full second story where the top must come under a cornice, as it does not extend up so far.

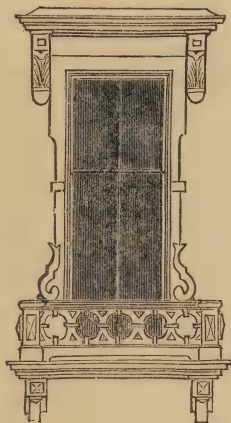


Fig. 32.

A great variety of forms can be given in the treatment of windows; and in fact, aside from the main outline of the structure itself, nothing has more to do with the general effect of the outside than the treatment of the windows.

Where verandas come over windows, it is sometimes desirable to have swing sash, usually know as French windows, opening out from the rooms. These are very pleasant

in summer, but must be protected in winter by storm windows, as the swinging of the sash gives greater opportunity for cold to come in.

Through the winter it is often economy to protect, with a double sash, windows that are exposed to the cold winds. This sash is made all in one piece, and fits over the outside casing, with a strip of narrow felt between this and the sash, and secured with long screws, the felt effectually keeping out the wind.



CHAPTER XXII.

OUTHOUSES. — SOME PRACTICAL SUGGESTIONS. — HOW TO HAVE ICE ALL THE SUMMER. — AN ICE-HOUSE PRESERVATORY. — PLAN FOR A CHEAP BUT EXCELLENT FARM AND CARRIAGE BARN.



IT frequently happens that the outhouses of a farm, such as the ice-house, hennery, etc., receive but little attention.

Some farmers utterly neglect walks or stepping-stones to the barns and other buildings, and content themselves to tramp through mud and snow, when a few hours' work would build a substantial walk from the odds and ends left in erecting the barn. Such conveniences really cost but a trifle compared with the benefit derived from them.

ICE-HOUSE.

An ice-house properly made will last a long time with but little attention; and in the country where ice is not supplied, there is no reason why the milk-house, meat preservatory, and ice-house should not be combined in one, especially where a running stream is not near at hand.

Ice can be preserved in simple, double-walled houses, with the space between filled with sawdust, and the ice packed in closely and covered well with sawdust. The

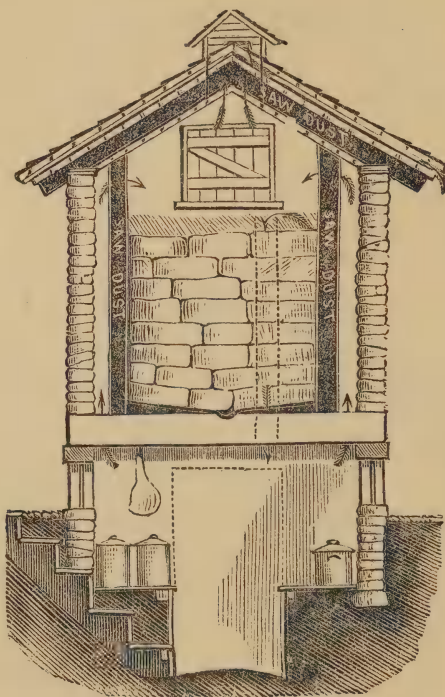


Fig. 33.

accompanying engraving and description will, however, give a better idea of how to combine the ice-house and preservatory.

The novel feature of this plan is the placing of the preservatory *under* the mass of ice, from which it is separated by the floor made of plates and galvanized iron. It is thus

already filled with cold air of about the temperature of 34° or 36° . The temperature is communicated to the preservatory by the ice acting through the thin floor of iron plates. Fresh air may be introduced from the sides when desirable, and ventilation is secured in the direction indicated by the arrows, between the outer and inner walls. The iron floor slopes to the center, where the drainage is completed by a pipe. The outer wall is made of stone or brick, next comes an air-space eight inches wide, then a wall of boards filled in with sawdust. The current of warm air from below passes up the air-space, through holes into the chamber above the ice, and out at the roof. The rafters are double-boarded and sawdust placed between them and a four-inch air-space left between them and the roof ; this secures brisk circulation of air.

If the ice-house is to be connected with the dwelling, the preservatory may be entered from the cellar by breaking a door-way through the wall ; if apart from the house, unless a side hill be available, some steps downward will be necessary.

The ice-house should be wholly above ground, but the preservatory partly or entirely under, as shown by the grade lines on side of cut.

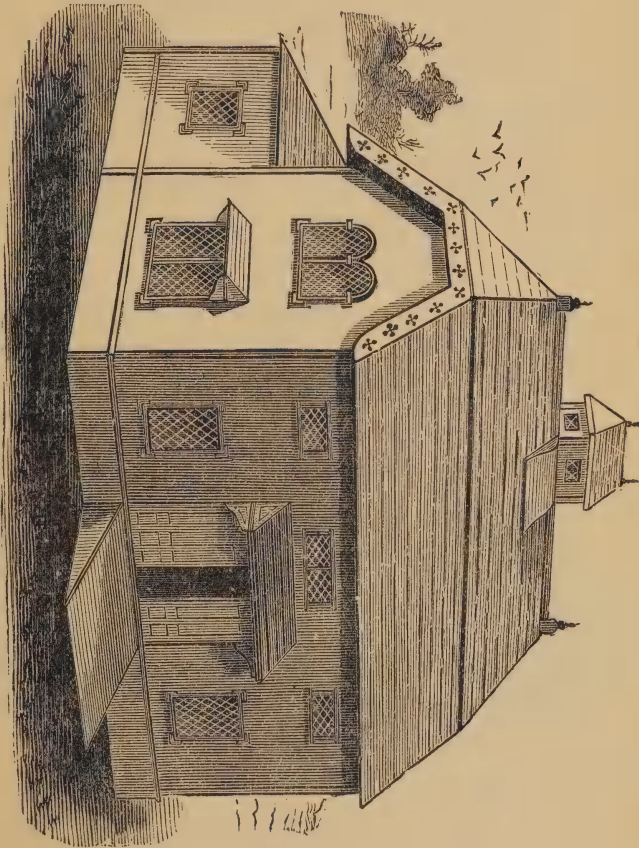
FARM AND CARRIAGE BARN.

There are many farmers owning farms of from fifty to eighty acres, who often feel the need of a carriage barn, yet do not feel able to build one in addition to their other farm buildings. To such it is believed this design of a farm and carriage barn combined will be acceptable.

The size of the main barn is 30x60 ft., corner posts 15

from the mow over the carriage room. The granary has capacity for three hundred bushels of grain, and the whole barn storage room sufficient for a farm of sixty acres.

Fig. 35.



The following is the descriptive reference to the cut:
A, threshing and entrance floor, 16x30 ft.; B, carriage and

wagon room, 22x24 ft.; C, mow, 18x22 ft.; D, horse stables, 15x22 ft.; E, feed-room, 7x12 ft.; F, stairs, with pump (•) under them; G, harness closets; H, H, H, hay racks in horse stables; I, I, I, I, grain and water buckets; T, store-room, 15x21 ft.; K, tool-closet; L, work-bench; M, passage-way, 4x30 ft.; N, granary, 8x22 ft.; O, cow stables, 15x20 ft.; P, P, P, P, mangers; R, pig-pen; S, sleeping-room; F, feed-trough; U, hennery; V, feed-box; W, perches for hennery.



CHAPTER XXIII.

VALUABLE SUGGESTIONS AND RULES.—METHODS OF ESTIMATING WORK AND MATERIAL.—HOW TO FIND THE AMOUNT OF LUMBER NECESSARY TO ERECT A GIVEN BUILDING.—PRICES OF LABOR.



EXCAVATING CELLARS.—This is estimated by the cord of 128 cubic feet, by the square foot, or square yard. One to two dollars per cord is usually paid, according to hardness of the subsoil.

Drains.—So much per lineal foot, according to depth and hardness of subsoil. Pipes for drains cost in proportion to their size.

Stone-work for foundations, — Usually $16\frac{1}{2}$ cubic feet, estimated at so much per perch, laid in the wall, and costs according to kind and quality of stone.

Brick-work—Is figured by number of cubic feet in the wall, 22 common brick to the foot. Prices for laying up the wall vary with cost of labor.

Plastering.—This is estimated by the square yard,—for three-coat work, twenty-five cents; and two-coat work, twenty cents per square foot, including mortar. Stucco or plaster cornice work, from thirty cents up, per lineal foot.

For center-pieces of stucco, the cost is two dollars and upward.

Carpenter-work.—For framing, compute the number of feet of board measure in frame, and to the cost of this add eight dollars per thousand feet for ordinary framing. For brick walls, allow five dollars per thousand feet for labor; for common boarding of walls, roofs, and rough floors, add to the cost of boards four dollars per thousand feet for labor; for shingles, one dollar and fifty cents per thousand for laying.

Cornicing—Must be estimated at so much per lineal foot, and costs according to the amount of work.

Windows—Are reckoned by the piece, considering finish inside and out, all complete save the glazing.

Doors.—Double doors for entrance, if of pine, are twelve dollars per pair upward, according to style,—walnut, from thirty dollars upward; common doors, from six dollars upward; inside sliding doors, from twenty dollars per pair, upward, according to finish.

Floors.—Laid, add one dollar to cost of every ten square feet of lumber. For base, the cost is so much per lineal foot for lumber, and three dollars per hundred feet put down; wainscoting, so much per square foot.

Staircases.—Common, straight, cylinder staircases, with curved rail, and casings at all angles of stringers, and common newel posts and turned banisters, cost about forty-five dollars; winding stairs, ninety dollars; and so on, the cost varying with the amount of work.

Bay-windows.—One story, forty-five dollars; two stories, eighty-five dollars.

Clapboarding or weather-boarding.—For this work, add to cost of lumber ten dollars per thousand feet, but if much fitting is required this amount will not be enough.

Painting—Is computed at so much a square yard; and for glazing, take the size and consult some good dealer or a good price list.

Cresting—Costs so much per lineal foot.

Hardware and plumbing—Cost according to the quality of material and the amount of work.

In the foregoing estimate the prices quoted are perhaps an average; in the country the cost will usually be less.

MEASURING.

A foot of lumber is a piece 12 inches square and 1 inch thick; a board 12 inches wide, 1 inch thick, and 10 feet long contains 10 feet of lumber.

To measure boards,—Multiply the length in feet by the width in inches, and divide by 12; the result is the number of feet in the board if 1 inch thick; if $1\frac{1}{4}$ inches thick, add $\frac{1}{4}$; if $1\frac{1}{2}$ inch thick, add $\frac{1}{2}$; if 2 inches thick, the board will contain twice as many feet, and so on.

To measure a pile of lumber.—If the boards are of equal length and width, multiply the feet in one board by the number of boards. If the boards are of equal length, but vary in width, measure each board with a tape-line, drawing it out as each board is measured; and when the pile is completed, examine the tape-line, find how many feet you have measured off, and multiply this by the length, in feet, of one board. If the boards vary in length, they must be measured separately, or averaged.

To find number of feet in studding, etc.—Multiply length and breadth in inches by length in feet, and divide the product by 12. The result will be number of feet in the stick.

To find how many feet of lumber a log will make.—Take the average diameter in inches and subtract 4, square one-fourth of the remainder, and multiply by the length of the log in feet. The result will be the correct number of feet that the log will make.

Amount of lumber for a given building.—By applying the foregoing rules, any one may find the number of feet of lumber required for a given building. Begin with sills, and calculate for each kind of lumber separately, adding the results. For clapboarding, add one-third for lapping; for matched flooring, add one-fifth for waste.

Shingles.—The number of shingles required for a roof is usually estimated at one thousand for every square, or one hundred square feet; hence, find the square feet in the roof and divide by one hundred,—result is the number of thousand shingles. This estimate is ample, and with good shingles 1000 should lay 125 to 140 feet.

Or, find the area in inches, multiply the width of a shingle by the length exposed to the weather, and divide the area by the product. This gives the number of shingles, but there must be allowance made for waste. Shingles are laid from three to six inches to the weather, according to length, and they vary in width, four inches being the average width.

For clapboarding,—Add one-third to the number of surface feet to be covered, for boards, 6 inches wide, laid $4\frac{1}{2}$ inches to the weather.

For flooring,—add one-fifth to the surface feet, for matching.

In plastering—It is customary to compute the whole area and deduct one-half the area of doors and windows, but in some places no deduction is made.

CHAPTER XXIV.

≡ HOUSE PAINTING. ≡

ITS PHILOSOPHY. — BEST TIME TO PAINT. — KINDS OF PAINT. — COLORS. — MIXING. — OILS AND DRIERS. — APPLYING PAINTS. — PRIMING. — SECOND COAT. — FINISHING COAT. — BRUSHES. — GENERAL SUGGESTIONS.



PAINT, composed of a mixture of oil and mineral, generally white lead, and applied to wood, iron, and even stone, acts as a preserver by shielding the surface from the action of rain and the atmosphere.

A building left unpainted any length of time, absorbs moisture quickly; and besides rendering the rooms unhealthful, by reason of moisture, it decays very rapidly.

The best time to apply paint is in the spring or autumn. Cool weather, if dry, is better, as the paint hardens naturally and presents a firmer surface to the action of the elements. In summer, when exposed to the sun, the oil in the paint soaks into the wood and leaves the lead to crumble and wear off quickly; yet if care is taken to apply the paint at proper hours, the action of the sun will affect it but little.

KINDS OF PAINT.

Pure white lead is the base or body of all durable paints, and is vastly superior to all others for first coats. Owing to the fact, however, that it is prepared by an acid process, it is not so good in a pure state for outside coats, as it is in many cases not thoroughly washed and contains more or less acid, and when so exposed to sun and rain the presence of the acid is liable to make it powder and rub off like whitewash.

Zinc, which is prepared by fire process (oxidized), contains no acid or other injurious substance; and when mixed with white lead, it forms the best outside coats, the zinc neutralizing the acid in the lead and giving additional firmness to the body.

The *mineral paints* contain iron as their base, and are mixed with oil and prepared for use as lead and zinc. Many manufacturers now put up paint in cans, ready for use, and there is abundant room for deception. Consumers should beware and purchase of reliable dealers.

COLORS.

Which color should be used in painting a house, is purely a matter of taste. The surroundings determine this to a great degree. A house surrounded with heavy foliage would require a lighter tint than one standing in an open space. Every house should have two or more tints; the cornice and verandas should be of a contrasting shade with the body of the house, while the shutters, etc., should have a darker tint than either. Of the various colors, the olive tints in their different shades are very pleasing to the eye, also

lavender, drabs, stone, etc. A pea-green is a very healthful color, and with proper contrasts in veranda and shutters is very pleasing.

MIXING COLORS.

An endless variety of colors and tints can be produced by mixing. The following are only a few of them,—such as may be serviceable:—

Stone Color.—White lead and a little black.

Drab.—White lead with burnt umber and a little yellow ochre for a warm tint; raw umber and a little black for a green tint.

Sky-blue.—White lead with Prussian blue.

Buff.—White lead with yellow ochre.

Cream-color.—Add more white to the buff.

Olive-green.—Raw umber with Prussian blue, thinned with boiled oil and turpentine.

Pea-green.—White lead with Prussian blue and chrome-yellow.

Lead Color.—White lead and black.

OILS AND DRIERS.

Oils and turpentine should be pure and free from dust and other substances.

To assist the process of drying paints, driers are used. Those most in use are sugar of lead, litharge, and white copperas. When ground and mixed with paint, they assist the process of drying very much. Where it does not affect the color, red lead may be used as a drier.

Boiled linseed oil with litharge, one gallon of the former with one-fourth pound of the latter reduced to a powder, makes an excellent drier. It should here be

remarked that driers have a tendency to injure the colors, and hence should not be used in finishing coats.

APPLYING PAINTS.

Before applying paint, the surface to be painted should be carefully cleaned, and all projections of glue, putty, and whiting removed with knife and duster.

Knots should be killed by the application of *knotting*, which is made with red lead, carefully ground and thinned with boiled oil; another and better plan is to apply a varnish of shellac.

If knots are neglected, they give out turpentine and destroy the paint. Shellac is a gum, in natural state, and can be dissolved in alcohol in the proportion of three pounds of gum to one gallon of spirits; twenty-four hours is sufficient time to dissolve it, when it is known as *shellac varnish*, and by adding proper coloring matter, it forms an excellent varnish for many purposes. Paint should never be applied to damp or wet surfaces, as it is sure to peel off.

PRIMING.

After the knotting is complete, the priming, or first coat, should be applied. This coat should be composed chiefly of white lead, mixed with a very small quantity of red lead, and should be about the thickness of milk. Eight to twelve gallons of oil to every one hundred pounds of lead, is about the proportion; and one pound should cover fifteen to twenty square yards. It is not necessary that this first or priming coat should be of the color intended for finishing, as the later coats will secure the desired tint. In some cases a second priming coat, thinner than the first, is laid on, in which case two coats more will make an extra good job of painting.

After the priming coat is quite dry, all nail-holes, cracks, and other defects should be filled with putty, smoothing all rough places with fine sand-paper. In priming old walls, remove dirt and decayed wood with sand-paper and pumice-stone; shellac sizing may also be applied if the wood is somewhat porous, and more red lead used than on first coat for new work.

If brick buildings are to be painted, the priming coat should be native minerals, such as ochres, Venetian red, or iron, with a proper amount of raw linseed oil, as these will adhere more permanently and make a good foundation for future coats.

SECOND COAT.

This coat is a color coat, and the tint, if paint is not already prepared with desired color, can be made from the directions previously given for mixing colors. This coat should be a shade darker than the finishing coat.

The paint for this coat should be moderately thick; if applied in cold weather or under unfavorable circumstances, the quantity of driers must be increased. If the work is to be left shining, this coat should be thinned almost entirely with linseed-oil, in which case no driers will be needed.

FINISHING COAT.

If the work is to be glossy when finished, use more oil than turpentine and no driers; but if the work is not to be glossy,—*flat*,—use turpentine for thinning. Care should be taken to bring this coat to the desired tint, and it should be laid on just as soon as the former coat is dry enough to work over. This coat should be of same consistency of the preceding, and laid on with the utmost care.

BRUSHES.

Brushes are made of all sizes, both round and flat, and are chiefly of bristles; the best for outside work are called wall-brushes, from three to five inches in width. For inside and small work the round brush is best. When out of use, brushes should be carefully washed in turpentine and laid out of the reach of dust. When using, they should be left over night immersed in linseed oil or turpentine.

Varnish brushes should be washed in turpentine, and should they be left full of varnish and dry they may be cleaned by soaking in alcohol for twenty-four to thirty-six hours. Where it is practicable, a separate brush should be used in different colors; especially is this true where delicate tints are used.

GENERAL SUGGESTIONS ON OUTSIDE PAINTING.

Posts and pillars may be made to represent stone, by the following process: Procure a hand bellows, mash the nozzle down flat; into the nozzle, two inches from end, solder a small funnel, and before the finishing coat of paint dries, throw white sand by means of the funnel and bellows against the pillar. The sand will adhere, and when dry, the work resembles stone very closely. By procuring colored sand, pleasing combinations can be made.

For barns and other out-houses, the best paints are those which contain iron as a base, as the boards are usually rough and this class of paints generally protects such surfaces as well or better than the finer paints, besides being cheaper. Brushes should be heavy, as they wear very rapidly. In this class of work, a variety of colors costs no more, and adds greatly to the appearance of the work.

CHAPTER XXV.

INSIDE PAINTING. — VARNISHING. — GRAINING. — GRAINING TOOLS.—THE GROUND.—GRAINING COLORS.—OIL-FINISH.—GRAINING ASH, OAK, MAPLE, MAHOGANY.



ARD woods, as walnut, ash, and oak, look quite well in oil-finish, which is always popular and preserves the wood quite well. The wood should be well filled with a mixture of gilder's whiting, or corn-starch and boiled linseed oil to the consistency of cream, applied with a brush; after standing a little while, the work should be thoroughly wiped off with woolen rags.

After standing a week, or till well dried, the work should be well sand-papered with No. $\frac{1}{2}$ sand-paper or hair-cloth, when another coat should be applied and rubbed off as before. When dry, the work is ready for the finishing or gloss coat, which consists of boiled oil, applied with a soft brush, and if a *dead gloss* is wanted, this coat should be rubbed with soft woolen rags. If *high gloss* is desired, omit the rubbing and repeat the coat. Coach varnish will also give a high gloss, but it is more liable to damage from scratches.

INSIDE PAINTING.

In addition to the practical suggestions found under *HOUSE PAINTING*, the following may assist the reader in the business of inside painting.

Proceed as in out-door work for ordinary painting, sand-paper freely in securing perfectly smooth surfaces, and cover up every defect with putty.

In color, the taste of the occupant must be consulted, with the single suggestion that a warm tint costs but little if any more than plain white. The finer qualities of paints should be used, and care taken in laying it on evenly.

Plastered walls may be painted any desirable tint by observing the foregoing directions; it may be well to observe that plaster soaks up more paint than wood, and hence requires more coats after the first coat. It is well to give the work a light glue size before applying the next coat; it will give the work a much more even gloss.

OIL AND SHELLAC FINISH.

A very cheap and at the same time a popular method of finishing inside wood-work, is to apply one coat of boiled oil, and when dry, apply a finishing coat of varnish and oil mixed, or shellac varnish alone. The natural grain of the wood is preserved, and it can be kept clean easily; the wood when thus finished is a shade darker than its natural color.

Another plan is to apply two coats of varnish, without the oil, leaving the wood very glossy, but liable to scratch easily. If ever desirable afterward, the wood can be painted as usual.

GRAINING.

Graining is a tedious but not too difficult business for a person of ordinary intelligence to attempt with a fair degree of success. In the outset, a clear idea of the wood to be represented, should be in mind. A good plan, where the commoner woods are to be represented, is to procure a board having one or more sound knots and plane it off, and with this for a model, proceed to grain the job in hand.

Before the graining properly commences, the work should be made very smooth with sand-paper and putty, and one or more priming coats of white lead should be laid on and allowed to dry; the work is then ready for ground coat.

THE TOOLS.

These are few and comparatively inexpensive,—besides the brushes necessary for applying the color, steel combs, coarse and fine, and soft, cotton rags.

The brushes and combs can be found at any store where paints are sold. Formerly a leather comb was used, and may be desirable; if so, any one can make it, using stiff leather.

THE GROUND.

This is the base of the graining, and should be as near the color of the wood as possible, care being taken not to get it too dark.

The ground for maple, ash, and oak is about the same, a light cream for the maple and a shade darker for the oak and ash; walnut ground is of a deep copper color.

THE GRAINING COLOR,

or the color which shows the veins and growth of the wood, is the most important, as the delicate lines of the wood are to be traced in it. When the ground has been laid on and is quite dry, this graining coat is laid on, and while yet moist, the tracings of the peculiarities of the wood are made.

Before proceeding to give specific instructions, it may be well to note a few general suggestions on the figuring of woods.

Knots should have a dark center with a succession of very irregular circles, which on the outer edge become elongated till they merge into the sap of the timber lengthwise.

The sap, which in the natural wood is the smooth, shining part of the board, is made by wiping off the graining coat with a cotton rag drawn over the thumb, the nail of which is made to outline the sap, while by means of the fleshy part the broader lights of sap may be wiped out, observing to move the rag with every stroke to present a clean surface for the next. After having wiped the figures, they should be retouched with a small roll of clean rag.

VEINING OR COMBING.

Take a coarse steel or leather comb and draw it down lengthwise of the wood, and go over the same with a finer comb. Next take a fine comb and go over this work; at irregular intervals give the comb a quick wavy motion, diagonally, thus imitating the growths of the wood. In all cases the combing should precede the *sap* work.

ASH GRAINING.

Ground.—White lead, raw Italian sienna, or golden ochre instead of sienna, mixed with turpentine and oil, using small proportions of oil. To get the desired color, which should be a light straw tint, keep adding sienna to the lead, and try it frequently on a board. Apply with a brush very smoothly. Observe that this ground is the same also for light oak and maple.

Graining Color.—Raw sienna, burnt umber, and white lead mixed with turpentine and very little oil form the graining color. The tint is darker than the ground tint, and is made in the same way. The graining coat must be put on in small quantity so that the work may be done before it dries.

To prevent the paint from running, add a small quantity of soft soap. Proceed with the graining as in foregoing instructions, and if a mistake is made, apply more paint and begin anew. Apply one or more coats of varnish.

OLD OAK.

Ground.—Raw sienna, burnt umber, white lead, and Venetian red; mix with equal parts of turpentine and oil to the desired tint. Let this dry well.

Grain.—Vandyke brown, and raw sienna, turpentine, and small amount of oil.

BIRD'S-EYE MAPLE.—DESTEMPER.

Ground.—White lead, yellow ochre, or same as for ash. Use care not to get it too dark.

Grain.—Equal parts of raw sienna and burnt umber,

mixed with ale or beer. Have two paint buckets and make two thicknesses of paint.

Lay on the thin coat first evenly, then with a smaller brush put in the darker shades. The eye is made by dabbing the color with the tips of the fingers; shade the eye with a little burnt sienna, using a small hair pencil. When dry, varnish.

Mahogany.—1. Vandyke brown and a little crimson lake ground in ale, laid on, allowed to dry, and then smoothed, forms the ground. Then lay on a second thicker coat, soften with a badger-hair brush, take out the lights while it is wet, and imitate the feathery appearance of mahogany heart. Soften, and top grain with Vandyke brown laid on with an over-graining brush of flat hog-hair combed into detached tufts. In softening, be careful not to disturb the under color. Or, 2. Grind burnt sienna and Vandyke brown in ale, lay on a coat, mottle with a camel-hair mottler, and soften. When dry, over-grain as above.

For the proper varnishes to use, the reader is referred to that department of this work.

It is a matter of great difficulty to prevent varnish on outside doors from cracking; for this reason, painters recommend that a coat of oil be applied instead, and where it becomes dingy, apply more oil with a rag. This will avoid the cracking and preserve the graining.

Doors of the parlor may be ebonized if the furniture and carpets will harmonize with it. (See Varnishes and Wood Dyes.)



PART TWO.



ECONOMIC

LANDSCAPE GARDENING

FOR HOMES.

ECONOMIC
LANDSCAPE GARDENING,

AS APPLIED TO THE

IMPROVEMENT OF PLACES

OWNED BY PERSONS OF MODERATE MEANS AND HAVING
BUT FEW LEISURE HOURS.

BY

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HE author makes no claims to exhaustiveness in this treatise; on the contrary, what is here presented, is intended only as practical suggestions to practical people regarding the best course to pursue in laying out and improving grounds so as to secure at least a good degree of symmetry and beauty in the home surroundings. If he fails to make perfectly clear all the details, the reader can safely attribute it to the absence of needed illustrations, which would raise the cost of the work above the means of the class of people for which it is designed. He hopes, however, to throw some light upon a subject which has heretofore received too little attention, as the many examples of poor taste in laying out grounds fully attest. If the author succeeds in directing careful attention to the matter, he will feel fully repaid for this effort.

J. S.

CHAPTER I.

GENERAL RULES AND OBSERVATIONS APPLICABLE TO THE
IMPROVEMENT OF SMALL LOTS FROM ONE-SIXTEENTH
TO ONE-HALF ACRE IN AREA.—ERRORS OF COMMON OC-
CURRENCE.—STYLE OF GARDENING.—EXPOSURE AND LO-
CATION.—GRADING AND TERRACING.



BEFORE entering upon details as to the best methods of improvement, and as a fruitful source of awakening attention to the subject, it has seemed best to enumerate some of the more noticeable faults, most of which may be seen upon any street of half a mile in length in any but the most wealthy portions of our cities and villages, in the hope that the reader may the better analyze his premises, if already improved, or guard against these defects when about to make for himself a home in the future. Chief among these faults may be named the following—

ERRORS TO BE AVOIDED.

1. Houses too near the street.
2. Too many trees inside the yard.

3. Too much shade about the house.

4. The use of improper trees, considering the style of architecture employed, as well as the use of such trees as have the disagreeable habit of suckering, or sending up sprouts, or that produce unsightly blossoms, or food for "horrid worms," as ladies say.

5. The use of improper colors upon fences and buildings,—colors that do not harmonize with each other, nor with the things that nature furnishes in that locality.

6. The want of care necessary to keep a place tidy and neat.

7. The destruction of lawns by the use of too many and too great a variety of things in small places.

8. The use of too many styles of fence upon the same block, out of proportion as to parts, some having too small posts, some being too low, others too high, together with numberless other defects, which we shall mention in connection with each subject of which we shall speak hereafter.

HOW TO BEGIN.

But lest the want of space forbids our going sufficiently into details upon all these topics, it may not be amiss to remind the reader that *imitation* is one of the most fruitful sources of advancement. Look about you, and when you see a thing that looks pleasing and tasty and suited to your means, strive to copy it. Take notes and measurements in detail, for it is the minute features that produce the perfect whole. Do not allow yourself to guess at the size of a fence post or the height of the fence, the width of a walk, or the distance trees are planted apart, etc., etc., unless you know your taste is good in regard to such matters.

Many a man can appreciate good music, still he may not be able to utter a musical sound; and so in the adornment of homes, most can admire, but few can create them independently, and hence must be governed by rules or samples.

Or, better still, if you are able, get some person skilled in such things to furnish a plan, or at least give some suggestions that you may profit by when improvements are commenced.

THINGS TO BE ATTAINED.

The improvement of city or village lots that do not exceed a half-acre in extent is quite a simple, easy matter if you have carefully noted all the errors spoken of in the preceding pages, so that you are sure not to commit any of them, in which case, the work is already half done.

SIMPLICITY AND NEATNESS

Are the two main things to be sought in these little places, and since they can only be considered as one part or feature of larger places, no attempt to embody everything that could be attained upon a lot containing five or more acres will ever give pleasure or satisfaction within the limits of a small lot. The best that can be done is to secure one fine piece of lawn; a few choice flowers, not attempting to raise all that are named in the floral catalogues; and a few very fine, small growing trees and shrubs, in place of those of larger growth that are suitable for extensive lawns, together with only such walks as are necessarily traveled in going to and from the house to the approach, out-buildings, or flower garden, if one is kept at all; this last being of doubtful propriety within such narrow limits. Hence, use only small ornaments for small yards, and thus form a picture perfect

in all its parts, but taken in miniature. But at present we will consider some things that more properly come first.

STYLE OF GARDENING USED.

In general, only the "formal" or "geometric" style can be applied within narrow limits. There is no room to make curved walks and flowing outlines, rockeries, cascades, lakes, and other things that belong to the natural style. A mixed style might properly be adopted upon a good-sized lot, providing care is taken in locating the house and out-buildings, having a side entrance to the former, and having the latter so placed in the rear that a curved walk could be started from the proper place for an entrance to the yard, passing the door of the house, thence on toward the places that it becomes necessary to visit about every home. No abrupt turns would be admissible, for nothing of the "picturesque" can ever be tolerated here, not even rough rustic chairs and things of like nature. On account of their nearness to the dwelling, all architectural ornaments or manufactured articles should conform to, and be in harmony with, the style of the house, which is the leading feature in these small lots. It may be laid down as a general rule that things brought into close contact should either produce harmony of design by happy contrasts, the one being a *natural* and the other an *artificial* object, or else be of similar nature and the same style. Do not use gothic vases and other architectural ornaments in connection with a house in Grecian or Roman style.

THE EXPOSURE OR LOCATION.

Of course we do not expect all can obtain the most desirable places, and many of the readers have already pur-

chased and perhaps built; but it is proper to speak of these features, and then each can apply them so far as his purse or premises will allow.

First, then, in cities or villages where the streets are sure to be graded sooner or later, a medium elevation should be selected, being most likely to conform best to the level of the grade of the street when established. Of all locations, a southeast corner lot in the block is the most desirable, considering the means of access to barns, out-buildings, etc., and the bringing in contact of the most protected, or least inclement sides of the house for an entrance, and the most easily sheltered portions of the grounds for a lawn or ornamental purposes. Next to this would be the corner opposite on the south, being the northeast, which does very well by placing the house near the road on the north, and having a bay-window or veranda opening toward the south side, where the lawn should be, as before. Next to these two, we would choose an inside lot on the west side of the north and south road, or the north side of the east and west road. But should you be so unfortunate as to get the less desirable locations, it might justify more planting for shelter in front, and perhaps pure white houses with green blinds, together with a location less distant from the street than we shall recommend in our directions upon that subject, making the ornamental part of the yard partly to the warm side, or even behind the house if desired.

Of course, good neighborhoods, good views, nearness to churches, schools, and places of business, although not strictly belonging to the subject of ornamental gardening, should always be considered, as also good water, means of drainage, distance from noisy, smoky, or unhealthful manufacturing establishments, or cess-pools, etc. Get started

right if possible, and then half the work is saved; verifying the adage, "Well begun is half done."

THE STYLE OF HOUSE TO BE BUILT,

Although not properly belonging to this subject, needs great care in its selection. Nothing in ornamental gardening can ever atone for a poorly designed house. So, if possible, consult your architect and gardener together; and if you can afford neither, you had better borrow such features as you find in works upon architecture, like the one in hand, using them as your pattern and guide rather than trust your own poor taste, if such only you possess.

THE DISTANCE OF THE HOUSE FROM THE ROAD.

This depends much upon the style or size of the house, and more upon the shape of the lot, which should properly be twice as long as wide. It is also quite important to consider the views to be obtained or obstructed by surroundings. In general, all the houses in a block should front on the same line, and the center of the house should be placed back from the street one-fourth or one-third the length of the lot, the distance being increased with the increased width of the lot, providing the lengths are the same, as is usually the case in cities and villages. Upon a lot ten rods long, this brings a house that is thirty-three feet long, from twenty-five to thirty-five feet from the road, the shorter distance being about the least admissible in such sized lots, especially if all owners on the block can agree. And between these distances, the economic use to which you might desire to put your back yard, or the ornamental use to which you

might wish to devote your front yard, must determine each case.

Then, too, if your lot is very high above the grade, prudence would dictate not to use the less distance, but rather to increase the greater distance, thus giving less pitch per rod from the house to sidewalk. The pitch should in no case exceed one foot to the rod, not more than half this being desirable; and even then the surface should be a little full near the center, giving it a slight convexity, which increases the apparent breadth of lawn.

MEANS OF IMPROVEMENT.

The first thing to be done upon a new place is to secure perfect drainage for cellar and surplus waters, and the next is to mark out your necessary

ROADS AND WALKS;

But as we have occasion to speak of these more fully under the head of *large places*, the details being the same in both, we will proceed to the

GRADING AND TERRACING.

In case the pitch is too great from the house to the street, or in other places upon the premises, it will be necessary to *terrace*; and when this is done, let it seem to be a part of the house, being parallel with it, and supporting the same at every turn when near to it, or parallel with the fence when near to the road. Let the banks be smoothly cut, and neatly sodded with the finest June or blue grass sod that can be procured from some adjoining road-

side or pasture, not coarse timothy, clover, or dandelion sod. The same kind should be used in strips about eight inches wide for marking the borders of drives and walks, and be well pounded down with the back of the spade, and kept well watered during dry weather. Give the face of the terrace sufficient slant to keep it from falling down, and a concave rather than a convex face, which last does not look nor stand well. It would hardly seem proper to resort to terraces unless there is an incline above a foot to the rod in distance.

As regards the grading of the general surface, it is often advisable to plant the ground to some spring hoeing crop, —potatoes are best,—thus giving the old sod time to decay, making it much easier to level down smoothly in the fall, which of all seasons is the best for such work. Fill up all abrupt depressions, making the general surface smooth and even, with good descent for drainage.

FORMATION OF LAWNS.

As lawns constitute the chief charm in all small grounds, great care should be taken in their formation. Dig the ground deep and apply plenty of fertilizers in the form of rich loam, not clay alone unless the soil is too sandy, nor sand alone, for it will not hold moisture nor sustain luxuriant vegetation; but use both together, or more of one or the other as there seems to be need. Apply also a good quantity of composted muck if needed, and a generous supply of manure as free from weeds and the coarser kinds of grass seed as possible. Composting one season and turning often, will greatly improve barn-yard manure, and mixing it thoroughly with the muck or road dust is better still. After

the ground is leveled and the prepared manure applied, rake thoroughly with a fine-tooth iron rake, removing all chunks, sticks, stones, sods, etc., which may be buried in the ground or removed.

After this let the ground settle awhile, through a heavy rain if possible; and then, after again raking the entire ground over and making the surface smooth and even, sow evenly a mixture of equal parts of June or Kentucky blue-grass and redtop seed, with a little sweet-scented clover, not more than a pound to three bushels of the other two. Use this mixture at the rate of one quart, or a little less, to the square rod of surface. Sow early in the spring or in September, and about July commence mowing to kill the weeds; and if dandelions, thistles, or other perennial weeds are seen, dig them out with a garden trowel. Now, by mowing once in a week or two, rolling, and during dry weather sprinkling occasionally, you will soon have the greatest ornament that can be obtained near a house or made to adorn small premises.

A MORE PERMANENT LAWN,

One that will not be parched and dry during the droughts so common in our climate in summer, may be formed by another method which is costly in the beginning, but will return a rich reward when once completed. This is made by "trenching," or turning all the ground upside down to the depth of two, or better, three feet; commence at one side by throwing out a ditch, then fill this by forming another of same width next to it, and so on until all the ground has been inverted, the first dirt thrown out being carried to fill the last ditch. Then by leveling, rolling, and forming a new

surface of rich soils, as at first directed, and sowing as before, you will have the most durable and perfect lawn that can be formed, and the cheapest in the end. But as most Americans are too impatient for such work, we have given the quick way first, supplying the lack of moisture by artificial watering during periods of drought.



CHAPTER II.

SPECIAL FEATURES.—DRIVES AND WALKS.—VARIETIES OF SHRUBS, TREES AND FLOWERS TO USE.—LAYING OUT AND MAKING WALKS AND DRIVES.—EASY METHODS OF LAYING OUT DRIVES.—GROUPING AND PLANTING.

SPECIAL FEATURES.



DRIVES AND WALKS.—As we have before stated, the number, direction, and location of drives and walks are matters of the utmost importance, as these not only form convenient means of ingress and egress to the premises, and connect the points which must be so often visited about every house, such as the barn, gardens, out-buildings, etc., but also furnish the boundary lines for lawns, garden-patches, and other divisions of the premises. Therefore it becomes a matter of the utmost importance where these necessary features should be placed to make them at once convenient and useful, seeming to fall just where we need to go in following our daily pursuits,—a thing that no true economist should overlook. Still, they can be made “a thing of beauty,” or at least, so as to enhance the more beautiful features, since they furnish a guide for cor-

rect planting, which is the most difficult of landscape work. Not that we would set our trees and shrubs in regular order along the line of the drives, as would be eminently proper in the strictly "formal style;" still, at every turn, the one must be governed and made to support the other in an informal way; hence the importance of careful study in locating our walks and drives. No absolute rules can be laid down, since premises and their objects vary so materially.

But first of all, great care should be taken in regard to the location of the house, for this in turn must govern all else. Next to this, as few walks and drives should be made as will meet the every-day necessities; for if too numerous, they are expensive luxuries which require constant care and attention to prevent their becoming nuisances, for such they will become when overrun with weeds and grass, while at the same time they greatly mar the breadth of lawn by cutting it up into small patches like a piece-work quilt. If the lot is small, the house very near the road,—less than twenty-five feet,—and the door in front, it will hardly be possible to do more than run a straight walk from the road to the door, turning by a gentle elbow curve and passing along the side of the house to the kitchen door, leaving a narrow strip of sod between the walk and house, and thence to the out-buildings in the same formal manner.

Trees must be of small size, and planted so as to shut out views of an objectionable nature, but should never be close to the house. Use only nice flowering shrubs, such as the *althæa*, *deutzia*, *spirea*, *weigela*, and nice roses on the warmer sides; and *azaleas*, *kalmias*, and *rhododendrons*, all with numerous varieties, on the cold or northern exposures, near the dwelling.

If you keep a horse or cow and have no alley in the rear, it will be necessary to put next to one side of the lot a straight drive leading directly to the barn, located at the back corner on that side. A slight raise in the turf on the side of the drive next to the house, together with a judicious planting of shrubbery, either of a strictly ornamental character or of currants, gooseberries, etc., thus shutting out the view of the barn and gravel, may be desirable, thereby combining the useful with the decorative.

Flowers require such time and attention as few people are willing to devote to them; still, if the ladies can be induced to give their time, they can be made to add much to the beauty and attractiveness of the surroundings. Cultivate those that are hardy, such as *peonies*, *petunias*, *phlox drummondii*, *asters*, *zinnias*, etc., putting only one kind in each of the small, oval beds cut out here and there in the lawn, or else use some high-growing plants in the center and low ones around the border of the beds, which should be raised a few inches toward the center. Select such colors as blend together nicely, and care for them well. A small evergreen makes a nice center-piece.

PLACES OF LARGER EXTENT, with houses located as before directed, especially if the entrance is on the side,—a much more convenient plan, considering ease of access, the front door being replaced with a bay-window if frontage is favorable,—admit of a greater diversity of walks and drives; and these do not differ, only in width, the wider ones, above eight feet in width, being used for both purposes very properly.

The first thing now to take into consideration is a convenient place for an entrance. If your daily travels lead

you nearly always toward a certain corner of your lot on the front, and your door is on the same side, you are fortunate; for then it will be an easy matter to make your opening in the fence somewhat to that side of the front of the house. Passing through the fence at right angles therewith, very soon bear toward the nearest corner of the house, and before reaching it, again turn in the opposite direction, passing the entrance at right angles with it; thence continue the drive toward the barn, which should be located opposite the street entrance, and toward the back corner of the lot, if not too distant; at the same time a return curve may be made, leaving the barn drive on an outward curve near the house steps and meeting the entrance drive in the same manner, having made a pear-shaped figure. If all this happens on the side opposite your best room, which should always be on the side of your house overlooking the finest, warmest parts of your pleasure-grounds, so much the more fortunate. Again, just where your entrance drive first turns, you can leave it in an abrupt manner in the opposite direction with a less conspicuous drive or walk which skirts that side of the premises, and makes its way to the barn, wood-yard, etc. This will obviate the necessity of passing the house when going on business, drawing feed, coal, etc. In case you have a corner lot or an alley in the rear, there will be less necessity for this last drive, since the barn may be placed on the road or alley, and easily reached from the outside.

Again, in case there is need for often going in both directions after reaching the street, and your premises are sufficiently large, the house being fifty feet or more from the road, you can have two openings into the yard, about equally

distant from the house, and unite these by a curved drive which connects with the first-named drive where it turns nearest to the front corner of the house, as spoken of at first. This will make nearly a half circle of the drive connecting the entrances and passing the front of the house, which, in

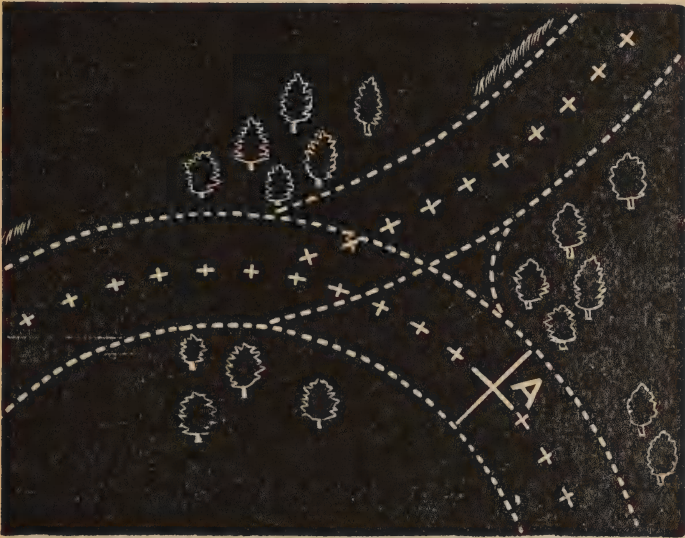


Fig. 36.

this case, may very properly have a front door opening into a hall, and also a veranda or open porch in place of the bay-window, which would now properly fall on the side of the house next to the pleasure-grounds.

As to the details necessary to form correct and pleasing curves, (not geometric ones in all cases, as some seem to think, and even give rules for forming), space will not permit me to explain fully. A correct eye will stick a row of

stakes through the center of the space intended for a walk or drive, and a measuring pole as long as the drive is wide, with a short stick nailed at right angles to the measure at its center, will determine the outside line of the walk, provided the short crossing stick is kept in a line with the center row of stakes at every point measured, as shown in the figure.

The same figure will also show the arrangement of the planting, which should not be in any formal order, but so placed as to appear natural and not to obstruct any views, while at the same time furnishing a pretense for turning just as we do. There are other methods, such as using measurements and making offsets from tangent lines, for which we must refer you to the more extensive works on this subject. One more, which is very easy to put in practice if the ground is newly graded and raked, is to take your horse and carriage and start at the entrance and drive, in an easy, natural way, toward the points you wish to reach; then make the return, meeting the first track on the outward bend, merging into it in a graceful manner, and passing out. Then widen the track, by stakes stuck on each side, to the width of your drive, or let it remain as it is for a walk only. This is the easiest of all methods if you have any idea of where you ought to drive.

MAKING WALKS AND DRIVES.

This should be done in as permanent a manner as your means will admit. There are many methods, but the same general principles govern them all; viz., thorough drainage underneath, and a hard, compact surface that will not cut up into ruts, nor furnish dust or mud at any season of the

year. In order to accomplish this, you will need to dig out the dirt to the depth of one foot at least, using the same for filling where needed, and leaving the bottom with a gentle inclination toward the center if the drive is not more than twelve feet in width; in this case a tile drain should be laid under this lowest line, following the course of the road. But in case the road is wider, slant the bottom both ways from the center toward the outside, and then under both these lowest points use tiers of tiles as before. The tiles should be put at least one foot lower than the bottom of the road-bed, and laid as directed in the article upon the improvement of large places, the ditches being filled with gravel or other porous soil, in order to let the water drain off rapidly from the road above.

The cheapest material with which to fill the lower part of the road-bed is probably cobble-stone, which should be laid smoothly and evenly over the bottom, and then covered with layers of broken stones, stone chippings, which may be bought sometimes very cheap, large gravel stones, oyster shells or other materials of similar nature, such as can be most easily procured in your locality. Fill in evenly, and finish with clean, coarse gravel to a depth of three or more inches, bringing the edges up to within two inches of the top of the sod border before spoken of, which should always form a border between the drive and the seeded lawn. The center of the drive or walk should be higher than the sides, having an elevation of about one-half inch to the foot in width from the side to the center, or four inches rise in a twelve-foot road. Each layer of material should be thoroughly rolled, and the surface kept well and evenly raked, and freed from weeds. The margins of sod should be neatly

trimmed several times during the season, keeping them on the original line, which may be preserved by driving a line of stakes on each side so that the tops will just come even with the sodding. There are several other features in connection with the making of roads, of which we have only spoken briefly, and which must be passed by in this brief treatise, referring you again to more exhaustive works on landscape gardening.

Of this subject something has already been said in connection with other subjects; and since no small limits can do it justice, it may be as well to omit it as a separate topic, and glance at it in connection with the subjects treated of in the few remaining pages. A very good means of increasing the breadth of lawn in small lots is to have no boundary fence between neighboring lots, especially along the front half of the lots. In this case, no little care should be exercised in the planting of trees between the two dwellings, by the judicious disposition of which we may shut out the view of our neighbor's house from the best windows and other points of view, and thus appear to own a larger place than we really do. Even the entrances to two adjoining places may be combined in one so far as the starting point is concerned, with a saving of space, and no loss in effect. In case these methods are put in practice, it may be best to erect a high fence along the back half of the line, and then run a line of hedge or a grape arbor at right angles to this on the front end, reaching nearly from one house to the other, and separating the front views from the kitchen and other unsightly offices necessary to every household. Of this, we shall speak again under the subject of fences.

A few words on the general location of plants: Except in strictly formal grounds, do not plant trees at regular distances along the walks, borders, etc., nor attempt to make one side exactly correspond to its counterpart. Neither go to the other extreme and scatter them indiscriminately over the premises, thus breaking up all the breadth of lawn and shutting out all desirable views. Give heed to the development of these last two features, which may be promoted by properly grouping trees of harmonious forms and shades, also by planting most thickly along the margins of the premises, especially on the sides where shelter is needed from cold winds, and in the turns of the walks and drives, as spoken of elsewhere. Leave open vistas from the best points of view to fine objects in the distance, or on the premises, and many a happy hour will take the place of idle melancholy.



CHAPTER III.

TREE PLANTING.—THE BEST TIME TO PLANT.—HOW TO PLANT.—REMOVING AND PLANTING LARGE TREES.—HOW TO SELECT.—A GOOD LIST.—CARE OF TREES AND SUCCESS IN THEIR CULTURE.—FENCES.—KINDS AND THEIR STYLE.—HOW TO MAKE THEM ORNAMENTAL.



TREE PLANTING.—All American gardeners agree, we think, in placing November and December (if open) at the head of all other months for the planting of deciduous ornamental trees. To be sure, small trees and shrubs will do well planted in the spring, especially if the season proves not too dry, and proper care is taken to mulch the ground, and thus prevent the direct rays of the sun from absorbing the moisture immediately about the roots.

The conditions necessary to be observed may be noted in the following order: 1. Never remove a tree from a good soil and place it in a poorer one; and in order to prevent this, the hole in which the tree is to be set, must be dug much larger than the tree, and then the extra space, up to a proper depth, filled with rich soil, or with

manure mixed with the lower and most distant parts of the soil in the hole. 2. Do not put the manure in contact with the roots, nor set your tree too deep, for these two errors have caused more failures than all others. The deeper and wider you make the holes the better, even to four feet deep, and that much wider than the roots, filling the extra space with rich dirt, well packed down, in order to prevent the tree from settling when the rains come.

In transplanting large trees, above three inches in diameter, a preparation must be made before freezing weather comes on in the fall. This consists in digging and preparing the hole to receive the tree, as before, after putting in some extra dirt, which is to be removed before dropping the tree into the hole, and used in filling any extra space about the roots. Also dig a trench around the tree as deep as its main roots run, leaving a large ball of dirt attached to the roots. Shave the dirt down on top until the roots appear, to lessen the weight. Both the trench and the receiving hole should be filled with straw, leaves, or coarse manure, to prevent the ball of roots and the extra filling dirt from freezing down on the bottom.

TIME FOR REMOVING TREES THUS PREPARED.

Now, if you have extensive planting to be done, and the above preparations are completed, you can wait until the ground is thoroughly frozen in winter, when the removal should be done, taking care not to bruise the trees, and leaving the ball of dirt as large as can be conveniently moved. If but few trees are to be removed, and the weather is favorable, *i. e., cold, freezing nights and warm days*, some practice moving the trees in the fall, early in the morning, after a

crust has been frozen over the ball of dirt left about the tree dug around the day previous, and thus obviate the necessity of covering the dirt, which thaws out at midday, if left exposed on the surface near the hole. But where extensive planting is to be done, the first method should be adopted. Then in midwinter remove the filling, and dig down the bank on the most convenient side to such a slant as to admit a stone-boat or sled being backed under the tree, when tipped over in the opposite direction. In this way, trees a foot in diameter may be safely moved, if you apply force enough to move them. Another method of moving large trees is to use a wide, stout cart with a heavy tongue, which last is raised along side the body of the tree and bound fast, at the same time passing a strong chain under the ball of roots and over the axle of the cart, then pull the tree over with a long rope attached to the end of the tongue, after which, hitch a team to the root end, draw it to the new hole on planks, and lower as before directed.

Before removing the tree, be sure and make some mark, either by cutting off a limb or peeling the bark from the body a little, always on the same side of every tree you remove, the more easily to be remembered, by which you may know how the tree stood, and thus be able to place the same sides to the same points of the compass when you set them out. Some think this an unimportant point, while others lay great stress upon it. At least, it is a safe rule and requires little extra work; and indeed it would seem quite reasonable that the same side that had become acclimated to the rays of the sun or any class of winds should be best able to conform to their effects when transplanted in the same relative positions. As a general rule, the width of the roots

left should be as many feet as the tree is inches in diameter. After drawing the tree to its place, remove the filling and dirt until to the right depth by measure, and then lower the tree carefully to its place, packing the dirt about the ball and using the rest of the filling for a mulch.

For removing small trees or shrubs, and always for evergreens, which are much more difficult to make grow, where the dirt is to be removed from the roots, damp days should be chosen; otherwise great care should be taken to cover and moisten the roots. Your success will also depend much upon the kind of trees chosen.

Maples, elms, ashes, and most nursery-grown trees are quite tenacious of life; but *oaks, hickories, chestnuts,* and other deep-rooted trees must be handled with care. Some cut a circle about the tree, severing the roots some distance from the body, or even dig a trench and fill with rich dirt six months before removal, causing many fine, fibrous roots to spring out. Never select tall, spindling trees, grown in deep shade; but rather get good, healthy, stocky trees from the open fields or outskirts of the woods, where the sunlight and winds have had a chance to harden and acclimate them to the conditions with which they are likely to meet in your exposed lawns or roadsides. The land must be thoroughly drained previously, so that no water will settle in the holes, for no success need be expected with most trees unless this is done, either naturally or by tiles.

KINDS OF TREES.

Of the shaped trees, shrubs, and flowers to be chosen to accompany the various styles of architecture, we have already spoken several times, either by way of criticism or direct instruction; and since we have only attempted to improve small

city places so far, where little can be done in the line of grouping, we can recommend no trees better suited to the roadside than the different kinds of maples, which are upright, hardy, beautiful trees.

Elms are superb specimen trees, especially on low or level grounds, where there is plenty of room for their development; but for these small places, as before stated, trees of the second class in size are as large as can be used, and among these may be named the *mountain ash*, *catalpa*, *beeches*, *birches*, *lindens*, *dogwood*, *sassafras*, *buckeye* or *horse-chestnuts*, and in most locations, nothing is more beautiful at all seasons of the year than the common *peppertree*, among deciduous trees. And among the evergreens useful for small places, the *Norway spruce* takes the lead for either specimen trees or small groups, while the *arborvitæ* is best suited for ornamental fences or hedges, as it stands trimming well and thrives under almost any condition, in shade or sunshine. *Cedars* also answer the same purpose very well. Evergreen *barberry* and the low, bushy *juniper* fill a needed want.

But we must refer you to the woods or to a list of the trees that may be had almost anywhere, for want of further space.

FENCES.

The subject of fences, of which we promised to speak, will be difficult, if we attempt to please every one, judging by the numerous styles now displayed in front of residences in cities. Tongue cannot describe them nor printer's ink do them justice; so we will not try, but proceed to offer some suggestions which meet our views of good-sense, taste, and economy. In the first place, let every man on the same

side of the block agree to have a similar fence, if possible, thereby producing some degree of harmony, instead of entire discord.

From the various views we hear expressed upon this subject almost every day, we find that many persons of good judgment are anxious to see all fences removed from the road, and the lawn extended to the sidewalk; and, indeed, it has desirable features. It looks well to the passer-by, and makes it very convenient for him to step into the yard, peep into the open window at night, or examine every little opening bud or inviting flower by day; and at the same time there is little resistance offered to keep idle hands from appropriating such things as fancy leads them to covet.

Admitting, then, the need of some protection, what shall it be? The two objects for which fences are erected are protection and ornament. The first requires only strength and height, and is adapted to the use of back yards and parts that are unsightly, or about yards containing fine fruits or other things that are likely to suffer from viciously inclined men and stock, or from mischievous boys. Any neat, high, tight board or sharp picket fence will answer the purpose, not less than five feet being a proper height. But better still would be a nice hedge of thorns; *osage* orange, where not too much exposed to cold, as it is scarcely hardy enough for Northern States, or *buckthorn*, which last Downing recommends above all other hedge-plants for this climate, are among the best. Or if ornament is sought also, with protection from winds, use Norway spruce, hemlock, or *arbor vitæ*, planted closely, and carefully tended and clipped, letting them attain the height of five or more feet, thick and even throughout their whole length.

But about all the ornamental parts of your small yard, and including so much of your house as presents no un-



Fig. 37.

sightly defects or unpleasant features, and of course, including the whole main front of your lot must be made a

fence in which the ornamental, or at least the unnoticeable, predominates, protection being made only partial and of secondary importance.

What shall it be,—iron, stone, or wood? Of the whole list, what can be prettier than a beautiful, low, well-kept hedge, made of some of the evergreens last named? Still these will not answer alone if cattle are allowed to run the roads, and they must be protected by some inconspicuous wooden or iron structure. Next in neatness, comes a low wall, with a coping of cut stone, the whole not exceeding ten inches in height above the surface of the ground, and then surmounted by a light, tasty wire or iron fence, with posts made of $\frac{1}{2}$ x1 inch iron bars, edge to the front, firmly set into the stone cap with brimstone or other fastening material. Beautiful patterns are easily selected by sending for a catalogue, to any good firm that manufactures this class of articles. Let the design be simple, neat, and tasty, rather than grand and self-imposing, which detracts greatly from the appearance of the house, and interrupts the view of the lawn. Green or black should be the color of the wires. In the former case, use the best green paint, as near the color of green grass as possible; and dip the posts in coal-tar, which is the best black paint for iron, when used boiling hot. Some prefer sanding their fences while the paint is still green, and often with good effect.

Of the cheaper fences, the common perpendicular, curved top, wire, picket fence, when well made and in good proportion,—as much of the pleasing effect and beautiful appearance depend upon these points,—is among the most substantial, and is not wanting in ornament. This is made with a frame of nice posts, with horizontal rails at top and bottom of 2x4 inch stuff, well-planed and notched together as for a

wooden picket fence, but using, instead of the latter, rods of $\frac{7}{16}$ iron, placed three inches apart, passing through the rails, and curved above the top rail in such a manner as to again enter the rail behind the second or third rod from it successively. Corner posts are cased, paneled, and capped nicely.

A cheaper fence still, and one that answers a good purpose without pretense, is the low, four-board fence now so common. No ornamental fence should be over three and one-half feet high, nor have the bottom board more than two or three inches above the surface of the lawn. A large vacant space beneath a fence presents an indefiniteness that is far from pretty and very unsatisfactory to behold.

Some writers lay great stress upon the use of rustic fences, and other ornaments. But to us they seem very much out of place in ordinary city lots, being only appropriate where the surroundings are wild, rugged, and uneven, partaking naturally of the "picturesque in nature."

The colors of the fences should be the same as that of the house, providing this is such as good taste suggests; viz., dove, fawn, and other neutral tints, with trimmings of a little darker shade, or even pure white in the deep shade of trees, unless they be made of iron or partly iron, which should be of green or black, as already recommended. Of course there are numerous other appropriate styles of fences which any mechanic of good taste could devise, but all should aim at simplicity of design and neatness of finish, being made to evade, rather than attract notice; which last should always be directed toward the central figure,—the house; or if this be rather ordinary, in appearance, then toward its beautiful adornments, the creepers with which it should be shrouded, and also toward the lawn with its embellishments.

PART FOURTH.



INTERIOR
DECORATION,
OR,

HOW TO MAKE HOMES BEAUTIFUL.



VERY man's proper mansion-house and home, being the theater of his hospitality, the seate of self-fruition, the comfortablest part of his own life, the noblest of his sonne's inheritance, a kinde of private principedom, naye, to the possessors thereof, an epitomie of the whole world, may well deserve by these attributes, according to the degree of the master, to be decently and delightfully adorned."

SIR HENRY WATTON.

CHAPTER I.

INTERIOR DECORATION.—GENERAL CONSIDERATIONS.—OBJECTS AIMED AT, AND EXTENT OF DECORATION.—HOW TO BEAUTIFY WALLS AND CEILINGS.—WALL-PAPERS.—HOW TO SELECT THE BEST.



Y interior decoration is meant the addition to the interior of our homes, as finished by the builder, of such features as will add to the attractiveness of the rooms and lend an enchantment not felt or attained where *habitation* is the only object desired in a house.

The addition of furniture of the humblest kind to a room relieves the monotony and gives it an air of comfort; the presence of other articles not strictly in the line of necessities still further adds to its comfort.

But there are other considerations; rooms should not only be habitable but cheerful, and she is a wise housewife who recognizes this fact early and sets about obtaining the desired result.

The practice of HOME DECORATION is growing in favor rapidly; and as general culture increases, the demand for

means of beautifying the home increases, and the ingenuity of decorators has been taxed to its utmost to keep pace with the demand.

Walls and ceilings are no longer left in monotonous white, where even the presence of a soiled spot affords relief for the eye, but are now beautified in many ingenious ways to relieve the dreary expanse.

In these chapters, the author will endeavor to point out some of the ways in which Interior Decoration may be effected, giving simple directions therefor, so that by these instructions any one can perform most, if not all, the work without the aid of skilled labor, with the simple suggestion that, where it can be afforded, the assistance of the tradesman should be utilized.

The *extent of decoration* should harmonize with the surroundings; in other words, it should be governed by the uses to which the room is to be put, its size, and the amount to be expended, so that when done, there will be an air of completeness about the room which will render its occupancy pleasing. And here let it be remarked that *Elaboration* is not *Decoration*; the central idea of *Decoration* is comfort; *Elaboration* may leave no room for comfort.

Harmony is another vital consideration in the matter of decoration. Especially is this true of colors; the entire contents of a room should present such mingling of colors as will rest the eye and awaken admiration.

Many overlook this important factor in the decoration of houses, and thereby spoil what might otherwise have been a source of admiration and beauty. With this we pass to the consideration of

WALLS AND CEILINGS.

Next to the adornment of our own persons, the background or foundation of the rooms which we inhabit is of greatest interest to us. Our circumstances determine whether these backgrounds, which resolve themselves finally into wall-papers, shall be pleasant negative settings to the objects with which we fill our homes, or whether these decorations shall themselves supply the lack of objects which our taste or our purse may have hindered us from collecting.

WALL-PAPERS.

Like all transient fashions of dress or ornament, where the material is comparatively cheap, the patterns or colors of wall-paper are constantly changing, and new patterns and fashions are brought out every year. The small expense attending the decoration of a house enables each new occupant to choose the style of his mural adornment at frequent intervals. It is our aim here to present certain principles according to which a person may be able to select such mural and ceiling decorations as may be best adapted to the rooms he wishes to adorn. Nothing more keenly excites homesickness than the dismantling of a room where our life is usually spent. A sense of loneliness is produced by the removal of our paintings, book-case, and hanging shelves in an ordinary house cleaning, which is only effaced by a complete restoration after the cleaning is over. Wall-papers add as much or perhaps even more to our pleasure and comfort, at home, than pictures or other ornaments. The favorite painting may be dispensed with, but the harmony or disagreeable tints and figures on the wall-paper become

a part of the room, and are not so easily be to disposed of. They either possess the richness and repose suitable for a pleasing background to furniture, mirrors, and paintings, or their glaring, patchy colors kill the effect of the best pictures; and to many a nervous invalid they render his hours and days miserable, as he counts and combines over and over again the meaningless recurrence of a marked angle or curve, or the ever-repeated misshaped flower.

The first principle that should be considered in the choice of wall-paper, is that the decoration of the sides of a room ought always to be a background more or less rich, according to the circumstances, for the usual occupants, furniture, and ornaments, relieved against it. The choice of a pattern then becomes of secondary importance. A pattern that would be agreeable to, and suitable for, a large room, would not be for a small room, because little groups of objects on a wall-paper, covering a limited space, take pleasant, general figures, which, if they are seen scattered over a large surface, make combinations that destroy the effect of the most attractive patterns in detail.

In looking over a vast number of paper-hangings, one is apt to be impressed with the fact that the beauty of the paper arises much more from a successful combination of colors than from any special loveliness of design.

Patterns may be observed where, in a small set of squares, grave and rich effects are produced by a skillful variety of tints of olive and bronze, enlivened here and there by small touches of red. In some of these little squares are leaves of plants; in others, simple circles; and in others, some formal, geometrical patterns. Yet as a result of them all, we have a quiet and perhaps brilliant

shadow, relieving against its rich hues, positive tints in clothing, or bright china, or brilliant glass, as well as the people and furniture in the room.

A person is almost always able to find in any stock of paper-hangings, a kind of paper so simple in its attempts at form and color, that any one is sure to be pleased if he covers his walls with it. These papers consist of narrow, simple stripes, tiny clover leaves, or it may be little star-shaped figures, grey or white, upon a background scarcely different from itself.

A cool and pleasant effect is always given to an apartment thus covered; and if rich oil-paintings could not bear the contrast with so chilly a color, no headache was ever aggravated by it, no ornament ever obscured. A paper so neutral is not positively offensive, though it may be of an antiquated style.

CHOICE OF PAPERS.

In the choice of papers, a person must look to the adaptation of tints for different rooms, choosing bright or even brilliant shades for the dining-room, bronze shades with slight points of gold for a library, slight soft shades of blue or light-grey for bed-rooms, and rich cream colors with perhaps a little gold for the parlor or drawing-room. The patterns or forms best suited to the size and shape of the rooms can then be selected.

Long, perpendicular lines, as it is well known, lead the eye up, and give an impression of *height* to an apartment that no other combination can realize. Figures whose predominating lines are horizontal lower the appearance of the room, while large, detached patterns at regular distances

tire the eye and the mind with the constant tendency to count and recombine them; and besides, they compete so powerfully with other objects on the walls, such as pictures and *bric-a-brac*, and they disturb the effect of background to people or furniture so completely, that this class of forms is, perhaps, of all others, the most to be condemned. The scintillating effects of small figures render them the most suitable for wall-papers.

Of the numerous changes and improvements in all departments of art, none is more remarkable than the rapid advance made in wall decorations and paper-hangings. Wall-papers, with humming-birds and gigantic roses on a sea-greenish background, have happily become antiquated, and an ugly or too conspicuous wall-paper is now the exception, not the rule. Wall-papers as now produced, are the result of a comparatively well-educated taste.



CHAPTER II.

HINTS ON THE CHOICE OF PAPERS.—WHAT SHADES TO SELECT.—HARMONY OF COLORS.—SELECTING PAPER FOR DIFFERENT ROOMS.—THE DADO.



WE present herewith a few hints to guide our readers in the choice of wall and ceiling papers for different rooms. In the first place, it must be borne in mind that the paper must not be the most ornamental part of the room, but must serve as a background for the general furnishing and objects the room contains.

If the general furnishing of the room is rich and elaborate, the paper should correspond; still it must not be too conspicuous, but form a rich background to harmonize with the various rich objects which are presented against it.

If the furniture is plain, it will be entirely out of place to have a rich paper upon which it shall be outlined; for then the richness of the latter will tend to give a cheap appearance to all the furnishings of the room. Consequently, care must be taken not to give too rich a color to the walls of a room, and one not in harmony with all the surroundings. A gold paper is not needed to add to the richness of a room.

Another consideration in choosing paper is as to how light or dark the room is. If a room has many windows, and is therefore well lighted, it will bear a paper with a darker background than though it was poorly lighted; and a dark room should, on the other hand, have a light paper.

PARLOR OR DRAWING-ROOM PAPERS.

For parlor or drawing-room paper, those with light or medium backgrounds are regarded in best taste, introducing but few colors and those of rich and delicate tints, and distributed as evenly as possible, so as to avoid any strong contrasts.

The patterns for parlor papers are subject to frequent change, the latest styles running more to curved lines than to any distinct patterns. The choice of patterns, however, is a matter of taste, and must in most cases be determined by the size and general appearance of the room.

Dados are rarely used upon parlors or drawing-rooms. A frieze or border is always used, and these are of widths varying from six to twenty inches. The width of the frieze upon any room must be determined by the height of the room and by other accessories. This is usually of the same color as the background of the paper, or, possibly, in most cases a little lighter, but seldom of a darker hue. The idea of the frieze is to give an appearance of greater height to the room, and the frieze and paper should be separated by a dark band or a band of gold color. A gilt molding is often used at the junction of the wall and ceiling.

In this connection it might be suggested that a French pearl-grey, a warm stone color, a pale buff, or a delicate green, are all beautiful for parlor walls. The faintest sus-

picion of pink, like the inner lining of some lovely sea-shells, is both pretty and becoming, and will go well with most things in the way of furnishing.

A frieze of flowers and butterflies would not be inharmonious with this tint. Pale lemon-yellow is a pleasing tint, or a fuller apricot-yellow is very effective, especially with black wood-work.

In speaking of the color it is not meant that the wall-paper must be of one single tint, but reference is made to the predominating hue, which exists even when pattern and coloring are complex.

The shape of a room has much to do with its general effect. A long, narrow room lacks the capabilities of one square, or nearly square. A broken line of wall is by no means a misfortune, and may be converted into prettier surprises than could possibly be effected with straight lines.

THE LIBRARY.

For a library, more antique patterns may be used in wall-papers, and the prevailing style at present is the use of Pompeian colors, of somewhat sombre hues, but not enough so to make the room appear gloomy.

Dados are used in the library. These are not less than 26 inches wide, and sometimes as high as four or five feet, but oftenest run from 30 to 40 inches. Dados are either of the same shade or somewhat darker than the wall-paper, but never of a lighter shade. Friezes are also used, which are usually of a lighter shade.

THE BED-ROOMS.

The choice of wall-paper must be determined greatly by the amount of light to which they are exposed. If the room

be somewhat dark, a paper with a very light background should be put on, and generally speaking, light papers should be used on bed-rooms, but considerably darker for a well-lighted than for a poorly-lighted room. Where there are floods of sunshine, French grey, blue, or cream color may be used to advantage.

If friezes or bordering can be found of roses and buds, morning glories, daisies, or primroses, according to the paper, the effect will be very good. Patterns of flowers are especially appropriate for bed-rooms. A cottage bed-room, papered with small pink roses on a white satiny ground, is exceedingly pretty.

THE DINING-ROOM.

The paper for the dining-room should have a background of a medium, or from a medium to a dark, color. If a dado is used, then rich colorings may predominate in the dado while the wall may be left comparatively free of colors and quiet in tone. The dado may be from 30 to 40 inches in height.

If no dado is used, the walls themselves may partake of bright and cheerful colors, and well-defined patterns. The ceiling should be light and delicate, and near the cornice one or two lines of harmonious but contrasting color with that on the walls.

One of the handsomest wall coverings for a dining-room, where it is at all suitable, is a dado of rich maroon, with gilt figures, and a gilt and maroon molding in lines; above this, a very pale tint of olive-green with the cornice of maroon and gold.

CEILINGS.

From the nature of ceilings, the manner of finishing them is susceptible of a wider range than the side wall affords, however ornamental the latter may be. The reason of this is apparent when we consider that the ceiling is the only portion of an apartment which is not covered up or obscured by furniture or ornaments, and that the eye rests upon it undisturbed by surrounding objects. The repose which comes from a repetition of small figures, and the brilliancy of effect of large pictures, balanced by suitable surroundings, are, in various circumstances, proper to ceilings.

Until lately, good taste had been so little developed that it was agreed for dwelling-houses in general that a plain white ceiling was the best, and we were content to paper our walls and kalsomine or whitewash our ceilings. But we are at last beginning to learn that the blank white ceiling may be relieved from its cold chilliness by a mixture of buff, or greenish, or some other hue, which gives a warmer and more agreeable tint to a room than simple whitewash, and it may be made even more beautiful by the use of ornamental papers.

The decoration of ceilings with paper has now come into general use, and has taken the place of the more expensive decorating by fresco painting. The latter method of decorating ceilings in private residences could only be employed by the wealthier classes, and so rarely do we find experienced artisans in fresco painting, that the cost of frescoping the ceilings of a fine residence is so great that but few of even the wealthier indulge in it.

Equally as good and perhaps better effects are now being

produced at from one-half to one-tenth the cost, by the use of papers made especially for ceilings in all manner of designs. They are frequently astronomical patterns, representing so far as can be done the canopy of the heavens.

They are produced with no positive or set patterns, and no straight lines. The outer edges consist usually of panelings and stilings, of which there are many beautiful designs in paper, while the astronomical patterns come in between, arranged also in panels.

The former style of having large plaster-of-Paris center-pieces and raised cornices along the room has been abandoned. Small, tastefully-ornamented center-pieces from ten to eighteen inches in diameter are much used, from the center of which suspends the chandelier in the middle of the room.

The effect of decorating ceilings with paper is especially beautiful, and when tastily done, it adds very much to the beauty of the room. The paper for ceilings has a light background, while the edges are usually of a darker shade. The patterns of papers for ceilings are quite numerous, and may be found at any store where paper-hangings are sold.

The decoration of ceilings has become a very important part of the paper-hanger's work; and when he has an artistic eye and fine taste, his work often excels that of the fresco painter.

THE DADO.

The use of the dado in the sitting-room, dining-room, and library, answers to some extent the purpose of wainscoting. It forms a lower bordering to the paper, and may extend to any height desirable, from two feet to five feet, though its height is usually from thirty to forty inches. It often forms



Fig. 38.

We present three designs of Friezes, of the very latest pattern. Fig. 38 was designed by MR. JOHN LEIGHTON, F. S. A., London.



Fig. 39.

The second design is by MR. FRED BECK, of New York, the manufacturer of wall-papers.



Fig. 40.

And the last, by MR. LEWIS C. TIFFANY, of New York, the distinguished decorative artist and painter. The designs of MESSRS. LEIGHTON and TIFFANY have been kindly furnished the publishers of this work by MESSRS. WARREN, FULLER & Co., New York, the largest manufacturers of wall-papers in the United States.

a more suitable background for the display of the furniture and other furnishings of the room, and affords place for a richer and more elaborate display than the wall-papers proper.

The designs upon dados are often very rich and high-colored, while the wall-paper above has a quiet tone, and is of medium light or dark color according to the size or light of the room. The dado is almost always of a darker shade than the wall-paper, and patterns of high-colored and large flowers or birds are not uncommon.

The Frieze is the top border next to the ceiling.—It is now usually from six to eighteen inches in width, the width used depending principally upon the height of the room. The custom formerly was to have the frieze darker than the paper on the main wall, but of late years the frieze is somewhat lighter than the paper, with a dark line or beading at the point where they unite. A gilt molding at the corner above the frieze produces a good effect.

A roll of paper will cover from thirty-six to forty-four square feet, and by ascertaining the number of square feet on the walls to be covered, and dividing it by thirty-six, the number of rolls of paper needed will be ascertained. In measuring the walls, of course the windows and doors are not to be taken into consideration.

Paper is sold by the roll, and ranges in price according to texture, style, finish, and color, from ten cents upward, some of the most elaborate styles selling as high as twenty-five dollars per roll.

CHAPTER III.

HOW TO HANG WALL-PAPERS.—SIMPLE INSTRUCTIONS FOR EVERYBODY.—SIZING THE WALLS.—AMOUNT OF PAPER IN A ROLL.—HOW TO CUT AND MATCH THE PAPER.—PASTE FOR WALL-PAPER.



It is usually best to leave the walls or ceilings for at least a year before papering them, for the reason that it requires that time for the plaster to become so thoroughly dry as to hold the paper. If, however, it is desirable to paper new walls, it will be necessary to first put on a thin coat of sizing, in order to make a surface to which the paper will stick better than to the bare wall. This sizing may be made of a weak solution of glue, and may be put upon the wall with a whitewash brush. However, if the walls are green they are apt to draw the colors from the paper, so that it is best in all cases not to paper walls for at least a year.

In preparing an old whitewashed or colored wall for paper, the wash or color is first wetted well with water, and scraped off with an old plane-iron, or any piece of steel

which has a smooth edge, after which the wall should be swept down with a stiff broom, to remove all that the scraper may have left, and make an even surface. If there is any loose plaster, those parts should be well sized and have a piece of strong paper pasted over them, but it is even better to have the place re-plastered. Cracks or holes may easily be filled with a little putty, and in no case should they be left unfilled. If not stopped in any other way, slips of paper should be pasted over them, or else the cracks will soon show through the outer paper.

After all this is done, the room may be sized, and the sizing will be dry enough in an hour for the papering to be commenced.

If the room has once been papered, it will be necessary to go over the walls and tear off all the loose pieces, especially at the top and bottom, corners and edges. If the bare wall is exposed by the tearing off, these spots should be sized. After all these preparations are made, the wall is ready to receive the paper, and the hanging may proceed.

Wall-paper comes in rolls, eight yards in length, and from eighteen to twenty-two inches in width. A margin runs along each side of the paper usually from one-fourth to three-fourths of an inch wide, and before hanging the paper the margin on one of these edges must be trimmed close to the pattern printed on the paper. To do this, unroll a yard or two of one of the pieces of paper and with a pair of scissors trim off the edge, rolling up the paper again as it is trimmed.

It is usual to begin papering from one of the main windows in the room, and the edges of the paper when hung shall be toward that window, so that it will be necessary to

trim off the edge of the paper nearest to the window. It is necessary to trim off but one edge, as the paper when put on the wall laps over the margin of the other edge in order to match the pattern.

When the edge is trimmed, cut off a length about the height of the room from the ceiling to the base-board, or if a dado is to be used, so that it will come an inch or two below the top line of the dado. The second length must be cut so that the pattern will match exactly with the piece first cut, and so on.

If desired, as many lengths may be cut at once as will be necessary to cover the room. or each piece may be cut as it is needed.

The paste having been prepared beforehand, a thin layer may be spread over the back of the first piece, fold the piece up so as to handle it easily, and having brought the top to meet the ceiling, see that the length hangs straight, trying it, if necessary, by a plumb-line; then, after having fastened the top to the wall, take it by the lower end, draw it away from the wall, being careful not to loosen it from the wall at the top, and let it fall back and it will drop into its place without a wrinkle.

Now with a soft clean cloth begin at the top and press the paper to the wall all down the center to the bottom. Then beginning at the top, again press it from the center to each side, alternately, regularly downward. If this operation be properly done, the length will be perfectly close to the wall, and smooth in every part.

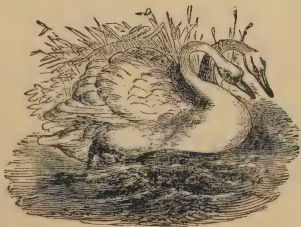
It is not to be pressed heavily; but the cloth, being taken in the hand as a round, loose lump, must be moved quickly over the surface—dab—dab—dab—with a light, clean touch,

otherwise some of the colors may be apt to smear. Last of all, mark with the point of the scissors where the paper meets the baseboard, cut off all that is over, and press the end carefully into its place.

Proceed with the second length in the same way, bringing the trimmed-off edge to meet the pattern of the first one, and taking care that no gap is left between. Neglect of these precautions will convert a handsome paper into a sight that will be a constant eye-sore. Try the lengths frequently with the plumb-line to avoid the chance of getting out of upright.

HOW TO MAKE PASTE.

Paste is best made with old flour, water, and a little size or glue; alum is also added, to make it spread more freely without losing any of its tenacity or sticking quality. It should be brought to a slow boil and made rather thicker than ordinary gruel, and then allowed to get cool before using. It should be laid on the paper smoothly and equally, with a good brush, not putting on too much, or it will squeeze out at the edges. Where this takes place it must be renewed with a clean damp sponge. Any accidental smears of paste may be removed in this way, if taken off lightly as soon as they are made.



CHAPTER IV.

OTHER WAYS OF TREATING WALLS AND CEILINGS.—CALCIMINE.—HOW MADE.—SHADE OF COLOR.—HOW TO PUT IT ON.—LIME WASH.—RECIPES FOR WHITEWASH.



It is not customary to paper walls and ceilings soon after the plaster is put on, as they are not supposed to dry out perfectly for some time; hence they are allowed to “season,” and the paper is put on the following year. The plasterer, however, leaves them in glaring white “hard finish,” and this soon becomes unsightly from its liability to absorb dust and specks. It is desirable, therefore, to apply a soft and pleasing tint in calcimine or whitewash. The calcimine can be used on hard finish only, while whitewash is suitable for any wall or ceiling.

CALCIMINE.

To make this, soak one-half pound of good white glue over night, and dissolve it in hot water; add ten pounds of Paris-white, or good whiting, and dilute the mixture with water until it is as thick as rich cream. By following the

directions given below, any desired tint can be given to the mixture.

Blue.—Add to the calcimine a small amount of Prussian blue, using care not to get it too blue.

Rose.—Three parts of vermilion and one of red lead, added in small quantities until the desired tint is produced.

Lavender.—Make the calcimine a light blue, and then tint very slightly with vermilion.

Lilac.—Two parts Prussian blue and one of vermilion added to the calcimine.

Great care should be taken in bringing the wash to the right tints, which will appear brighter when applied than in the vessel. Keep this fact in mind.

If a room is to be calcimined, or colored, see that the ceiling and walls are thoroughly washed with clean water, frequently changed, the rough patches scraped smooth, swept with a broom, and all cracks and loose places carefully stopped with size-putty, if small, or with plaster-of-Paris and a little putty-lime, if the cracks are large, dampening the places with a brush and water; then apply the plaster with a small trowel, afterward smoothing it off nicely.

When this is done, before proceeding further, all the rubbish should be cleared from the room and the floor swept clean, so that no particles of dust may settle upon the walls or ceiling after being freshly calcimined.

WHITEWASH.

For other walls than hard finish, whitewash must be used. The wash can be made by putting whiting to soak in water over night, and afterward mixing with water till as thick as cream, and adding a tea-cupful of size to two

gallons of the wash, which will prevent its rubbing off when dry; or potato starch may be added, which does not injure the white. When the size is used, the whitewash may be reduced to any required tint by adding the desired coloring matter. Yellow ochre, mixed with a small quantity of blue black, makes a stone color; without the black, a buff or straw color; and warmer tints may be produced by using indigo, or blue black, or Venetian or orange red. Vermilion will give different shades of pink, and a green may be obtained by mixing indigo and yellow ochre. Care will be required in the mixing, but if too much of the coloring matter is not added at first, it will not be difficult to get a color according to taste.

By a little painstaking this wash can be put on without splashing. Be careful not to take too much at a time into the brush, or to jerk it at the end of the stroke. A fine quality of whitewash brush should be used. As a rule, ceilings and walls, when not papered, should have one or two coats of calcimine or whitewash, at least once a year.

COMMON LIME WHITEWASH.

For a common whitewash, a mixture of one-half bushel of lime, one pound of common salt, one-half pound of sulphate of zinc, and a gallon of sweet milk may be used.

WHITEWASH FOR BRICK-WORK.

For brick-work exposed to damp, take one-half peck of well-burnt lime, fresh from the kiln, slake with water, then add a sufficient quantity of water to reduce it to a paste, and pass through a fine sieve; add a gallon of clean white salt which has been dissolved in boiling water, and a thin

smooth paste, also hot, made from one pound of rice flour; also one quarter of a pound of best glue made in a water bath.

Mix all these ingredients together, stir them well, and then add one-fourth pound of best whiting dissolved in five quarts of boiling water. Stir again, and cover over to retain the heat and keep out the dirt. Let it stand a week, then boil again and apply hot. The above proportions are sufficient to cover forty square yards.



CHAPTER V.

DECORATIVE ART NEEDLE-WORK.

RECENT IMPROVEMENTS IN NEEDLE-WORK.—USEFULNESS NOW
A PROMINENT FEATURE.—LIST AND DESCRIPTION OF
MATERIALS.—PRICES.—BEAD WORK.



NO department of home ornamentation offers a wider range than Needle-Work. Each year the desire to increase the attractions of our homes, becomes greater. In many large cities societies of Decorative Art have been teaching ladies what real ornamentation means, and great progress has been made, as the demand for specimens and designs for needle-work and embroidery fully attest. It is needless to say that the embroidery of to-day is vastly superior to that of a few years ago,—that the glaring, unserviceable ornamentation of the past has given place to decoration of a more refined character, in which cultivated taste displays itself, while *usefulness* is not overlooked.

The real secret of beauty in home decoration does not depend so much upon the richness of materials used as upon their arrangement with reference to the principles of harmony and simplicity.

The cardinal principles in work of this character should be usefulness and ornamentation combined.

MATERIALS.

The materials used as foundation work for embroidery are varied, new ones being brought out every year; but the subjoined list will be found serviceable in the selection of such as are most popular and least changeable.

Materials of inferior quality should never be chosen. Labor expended on them never pays. The fabrics, of whatever material, should be firm, well woven, and devoid of irregularities. Inexpensive stuffs, when suitably treated and used for appropriate purposes, are just as desirable as more costly ones.

Flax Cloth.—Unbleached brown linen is often used for chair covers, doylies, etc.

Canton Flannel,—Now known as *Fashion Drapery*, is used very much. It is double width, and may be found in a variety of shades.

Momie Cloth—Is fifty inches wide, made of both cotton and wool, and varies from one to three dollars per yard.

Upholstery Felts—Are now much used instead of cloth for curtains, table-covers, lambrequins, portieres, etc. It is easy to work upon, and is made in a variety of beautiful shades, presenting the appearance of fine cloth at much less cost. Two yards wide, one dollar and a half per yard.

Bolton Sheetting—Is of a beautiful cream color, and improves with washing. It is much used in embroidery, and comes in very wide widths at one dollar per yard.

Plushes—Are costly materials. Cardinal, old gold, and peacock blue are the standard colors of this material; but a variety of other tints can be found. A beautiful new style is

Ombree plush, shaded gradually from one side of the piece to the other, producing a charming effect in screens, panels, or anything which is of sufficient size to show the shading. Single width is four dollars and a half per yard, and upward.

Satin—Is furnished in a variety of beautiful colors, and is of great width, selling at six dollars and fifty cents per yard. Embroidery satin is known as *Furniture Satin*.

Crewels—Are made in all desirable tints. Fast colors, however, are found only in the best quality of crewels. These can be cleaned without fading, and are therefore especially for working on linen and flannel. In using crewel, it should be cut into short lengths, as long needlefuls pull the design out of shape.

Arasene—Is a kind of chenille, rich in appearance, and producing good effects. The work is done in the same way as with crewel, except that after working, the outlines are traced over with tinsel or gold cord, which adds greatly to the clearness and beauty of the design.

Embroidery Silks—Include several kinds; as, bobbin silk, purse silk, filoselle, all differing in quality and texture, —bobbin silk being used for satin, silk, or any fine material. Filoselle is manufactured of inferior silks, and hence costs less than purse and bobbin silk.

Beads.—Cut steel beads, colored with transparent lacquers, allowing the metallic luster of the beads to show through, are one of the latest novelties in needle-work. A silk or linen thread is used to string them on, as many beads being strung on at each stitch as are necessary to give it the desired length. As they are made of many colors, the work can be very accurately shaded, the same stitch showing several shades.

CHAPTER VI.

KINDS OF STITCHES.—STEM STITCH.—BLANKET STITCH.—
FEATHER STITCH.—A NEW STITCH.—THE PLUSH STITCH.
—DESIGNS AND STAMPING. — POUNCING. — APPLIQUE
WORK.—DRAWN WORK.—EMBROIDERY FRAMES.



THE best authorities agree that for embroidery the simpler and fewer the stitches the better. Of course, the number and character of the stitches depend upon the design to be made, some designs being so elaborate as to require no small amount of work.

Stem or Tent Stitch,—Which is the simplest stitch for beginners, consists of a single long stitch taken forward, followed by a shorter one backward, thus alternating, a long one forward and a short one backward, only the long stitch showing in the work.

Blanket Stitch—Is exactly like the ordinary button-hole stitch, and is used in edging materials. A very pretty effect is made by varying the length of the stitches, or sloping them in many directions.

Feather Stitch—Consists of long and short stitches worked

in together. It is especially applicable to flower-work, and the stitches should express the outline of the flower, the well-blended tints imitating the natural colors.

A New Stitch.—The most decided novelty in art embroidery, and one that has a permanent value, is the introduction of the *plush stitch*. By its use sumac, cockscomb, golden rod, love lies bleeding, princess feather, and similar flowers, which were previously very imperfectly represented by a bunch of French knots, are closely imitated in texture as well as coloring.

To make it, first fill in the flower with large French knots of the prevailing color; then (using button-hole twist) bring the needle up between the knots, lay a doubled strand of filling silk on the face of the work against the needle; take the needle down about in the same place it came up, but from the other side of the filling silk, so that when drawn down the stitch has caught the filling silk about a quarter of an inch from its end; draw the stitch down tightly, which will cause the ends of the filling silk to spring straight up; clip them off with a very sharp pair of scissors. This completes one stitch. Repeat for as many stitches as are required to cover, or nearly cover, the knots.

It is not easily described, but with a little practice is easily and rapidly done; and with taste and judgment in the clipping, and in the number of stitches used, so as to partly, but not completely, cover the background of knots, charmingly realistic effects are produced.

In the Cockscomb, for instance, the upper part or comb is a rich, velvety crimson. This should be worked with the stitches very close, and clipped quite long, the convolutions of the comb being represented by using three shades of crim-

son. As each stitch may be made different, the shading can be perfectly done.

The lower part, from the stem up to the comb, shows the green seeds, with a thin sprinkling of the velvety down.

This is imitated by making the knots of dead green crewel and a few plush stitches interspersed, using a single thread



Fig. 41.

of the floss made of filaments of red and green. Clip these a little closer than in the comb, and use more red toward the comb. This, when skillfully done, imitates the flower beautifully and faithfully, in striking contrast to the hard,

knotted abominations of most of the "Art Schools." It only need be seen to be appreciated.

Fig. 41 presents a very pretty design for a banner screen in which the cockscomb is treated in the plush stitch.

DESIGNS AND STAMPING.

The question of making original designs for embroidery, while of importance, is too difficult for amateurs. Those who are naturally ingenious will be able to construct their own designs, or modify those already made to suit their own convenience.

The method of getting the design stamped depends upon the nature and color of the material. For light material, the design may be first drawn or traced upon tissue-paper; next place a sheet of carbonized paper under the tissue-paper and upon the material, and go over the design with a sharp pencil or a dull needle, when it will be found transferred to the fabric in minute dots of black. If carbonized paper is not to be had, make it, by slightly oiling one side of thick tissue-paper and scraping fine pencil dust upon the oiled surface, being careful to remove all the surplus of pencil dust with a soft rag.

Where the design is to be transferred to a dark material, it must be done by *pouncing*. First draw the design upon thick paper, and then prick the outlines through the paper with a pin or needle, or if it be large, on a sewing-machine with an unthreaded needle; now place the design, face downward, and go over it with a pounce bag made of muslin and filled with starch, stamping powder, or pipe-clay powdered. Remove the pattern and touch up the design with a solution of pipe-clay or other coloring matter not injurious to the fabric.

In all cases, however, where it is practicable, the stamping should be done by one who knows how, thus avoiding the annoyance and danger of damaging the material.

Applique, or Cut-Work,—Has been divided into two kinds, *in-laid* and *on-laid*. Inlaid work consists in cutting the same pattern from two materials and fitting one into the other, much after the fashion of inlaid scroll-saw work, and fastening the inlaid part with embroidery silk. Onlaid work differs from the foregoing in this particular: The pattern is cut out from several stuffs, and then fastened upon another material with paste, after which the edges are sewed down with silk.

To those unacquainted with the work, it may be necessary to explain that the pattern, as prepared, is basted on the foundation to which it is to be applied, and all the edges of the colored felt pieces are caught down in button-hole or couching stitch with filling floss or embroidery silks of suitable shades. Any lines inside the figures, such as the veins of leaves, are worked in stem stitch; and small leaves, stems, etc., outside the figures, are worked in embroidery stitches or herring-bone stitch. The paper of the pattern is then torn away, which is facilitated by slightly moistening it, and the design remains on the foundation. The work is rapidly and easily done, and when the newer and more tasty designs are used, the effect is remarkably good.

Drawn Work—Consists in drawing out the threads of linen and working in patterns with fancy stitches. It is very popular, and elaborate designs are now made by this method, although the work is very trying to the eyes.

Embroidery Frames—Are made something after the fashion of quilting frames. Care must be taken to stretch the material firmly and evenly.

CHAPTER VII.

PRACTICAL DESIGNS.—EMBROIDERY PATTERNS.—AN ELEGANT PINCUSHION.—SILK COUNTERPANE AND COVER.—TATTED DOYLEY.—DESIGN FOR LINEN EMBROIDERY.



EMBROIDERY PATTERNS.—The two borders, Figs. 42 and 43, will be suitable for ornamenting children's frocks, aprons, etc. They may be worked with silk, crewel, or cotton, according to the material. Holland or alpaca aprons look well with borders of this kind, worked with andalusian or shetland wool.

EMBROIDERED PINCUSHION.

The ornamental pincushion, Fig. 44, is made on a circular cushion six inches in diameter, the bottom being of thick pasteboard, the sides of strong calico, and the stuffing of bran. Cover the bottom with calico, sew a strip of calico six inches wide round the edge, draw up the other side of the calico strip so as to hold the bran, and stitch a small round piece of calico over the gathers. Then take two strips of blue silk, two inches wide, and pinked on one side; one strip must be fifty-two, and the other thirty-six



Fig. 42.



Fig. 43.

inches long; plait up the long strip into sixteen double plaits, the other strip into eight plaits, and sew them on the the cushion according to illustration. Now cut out the star-shaped figure in white cloth, pinking out the edges, and em-



Fig. 44.

broider the design with colored braid and silk, and fasten it to the top of the cushion, so that the points of the star fit in between the plaits of the silk.

SILK COUNTERPANES.

Fig. 45 shows a quilted counterpane with the cover trimmed with neat embroidery. The inside may be of any desired color of silk, quilted in a variety of designs.

Fig. 46 is another style of cover, the edges being cut to form little tabs which button over the quilt. The space be-

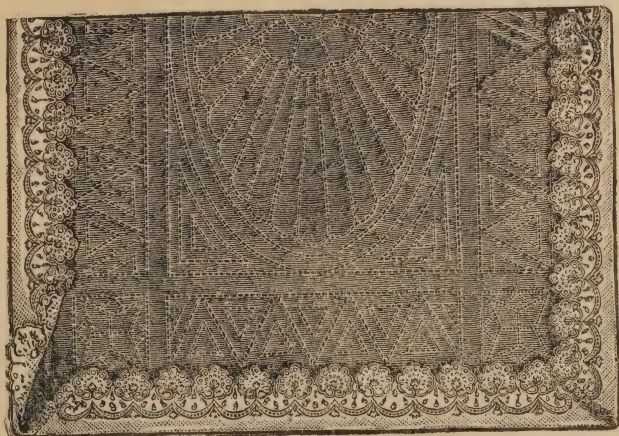


Fig. 45.

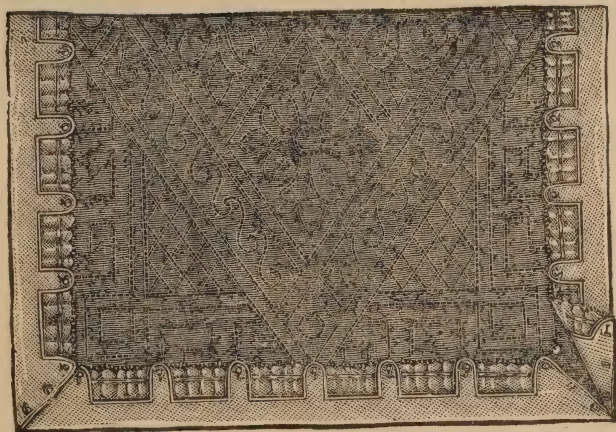


Fig. 46.

tween the tabs may be filled with lace plaited, as in the cut, or with embroidery.

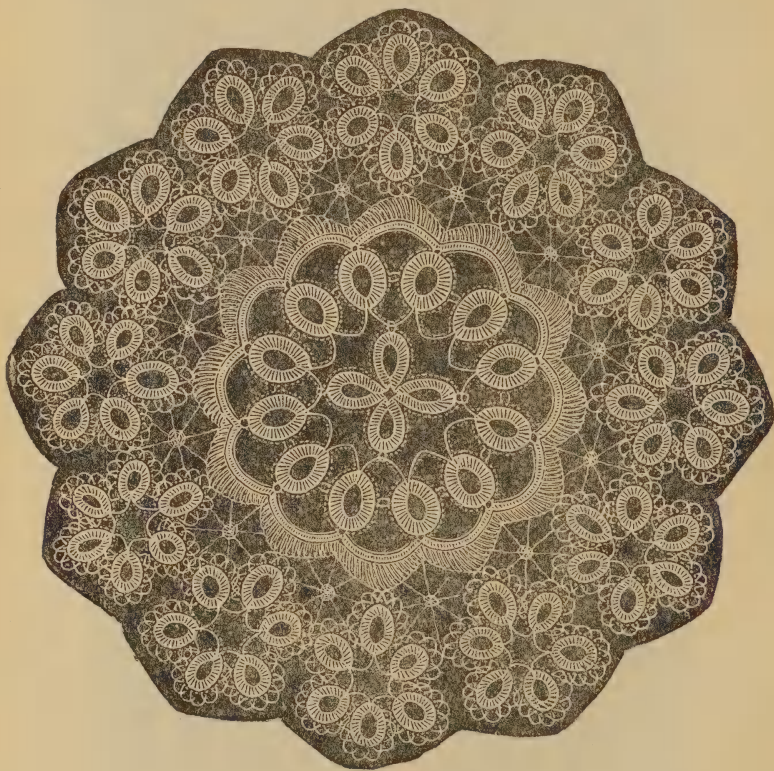


Fig. 47.

TATTED DOYLEY.

The tatted doyley shown in our illustration, Fig. 47, is so distinctly marked that it does not need an explanation to those skilled in the use of the shuttle. The tatting, which is composed of double and pearl stitches, should be worked as seen

in the illustration, with No. 6 cotton, and the spider's web in No. 16. The design would be equally suitable for a baby's cap crown, or it might be used for a flower-stand mat.

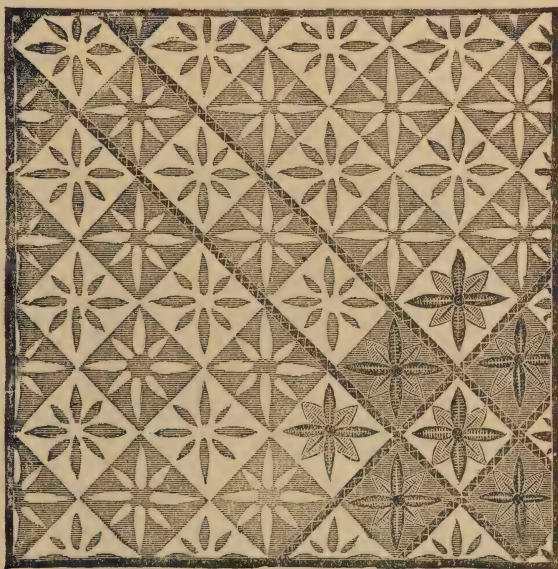


Fig. 48.

LINEN EMBROIDERY.

Fig. 48 is an illustration of a tidy made of the new style of embroidery on linen crash. Old ladies whose sight is failing will find this very agreeable work. The stars should be worked in two shades of bright zephyr, while the division lines between the figures should be made of narrow black velvet, crossed with "herring-bone" stitch in gold-colored

silk. Almost all damask toweling is suitable for this work, but the unbleached gray and buff, covered with stars, diamonds, or butterflies, will be found most satisfactory. Shaker rocking-chairs and hassocks cushioned with this embroidery are quite fashionable and are really very handsome.





Fig. 49.

CHAPTER VIII.

SOME ELEGANT DESIGNS. — EMBROIDERED ROCKING-CHAIR COVER. — A WORK-APRON. — DESIGNS FOR ELEGANT GLASS MIRRORS. — NEW STYLE OF SPLASHER. — BEAD EMBROIDERED NEWS RACK. — HANDSOME TABLE COVER. — A PIANO SCARF IN PLUSH APPLIQUE WORK.



LEGANT ROCKING-CHAIR COVER. — The very elegant rocking-chair shown in Fig. 49 is upholstered in hair and covered with silk plush of the peculiar shade called “drakesneck,” a sort of bluish-green of a deep, rich shade, which forms a most exquisite background for the sprays of wild rose so perfectly embroidered on the seat and back in silk filoselle, and the leaves having that tinge of brown and red mingled with dull green so often seen in the growing bush. The arms and front of the chair are finished with silk gimp to match, and silk fringe of the same shade as the plush, relieved by pink silk double ruffs at intervals. The back is covered with pink plush, and the whole forms a most beautiful chair and one that will not be ruined by reasonable use.

A PRETTY WORK-APRON.

A pretty little work-apron is shown in Fig. 50, made of a yard of pongee silk, 18 inches wide, embroidered in etching silk, the design being that old conundrum of

“How doth the little busy bee
Improve each shining hour?”



Fig. 50.

Another design often used instead, represents a little girl plucking the petals of a daisy, with the words

“I don’t care what the daisies say,
I know I’ll be married some fine day.”

After the embroidery is done, a hem is turned all around and neatly hemstitched, the lower end turned up to form a pocket, and the apron finished with bows of silk ribbon.

They will wash perfectly, and make charming presents for girls.



Fig. 51.

HAIR RECEIVER.

Fig. 51 is a novel and pretty hair and hair-pin receiver, made of No. 12 satin ribbon of two colors interwoven in a

sort of checker-board pattern, as seen in the engraving. A piece of card-board in the center forms a partition, on one side of which is a crocheted cushion of split zephyr to receive the hair-pins, the other side being left as a hair receiver. The whole is bound with satin and finished at the upper edge with quilled ribbon, as seen in the illustration. The fringe seen just below the quilled ribbon is made by fringing about two inches of the ends of the ribbons.

GLASS MIRRORS.

An elegant addition to almost any room is one of the beveled glass mirrors shown in Figs. 52 and 53. The frame is of pine or whitewood and covered with silk plush embroidered with arasene or with silk floss, arasene being much the best as the colors are better and the general effect more rich. The cuts show two very different designs,—one a vine of wild clematis, and the other a spray of dogwood; the former worked on deep Indian-red plush, and the latter on a very dark olive-green. They can be made of various sizes, but 10x10 or 12x12 for the glass is generally preferred. They are quite different in appearance from the painted frames so abundant in the stores, and which are usually very poor specimens of amateur art.

A NEW STYLE SPLASHER.

Splashers are not very new, but the one shown in Fig. 54 is so far superior to the ordinary splasher as to merit description. It is made expressly for the purpose, being woven with a band of open-work all around and a sewed fringe on the four sides. The material is linen momie cloth. Along the upper edge at the back, five loops of tape are sewed,



Fig. 52.



Fig. 53.

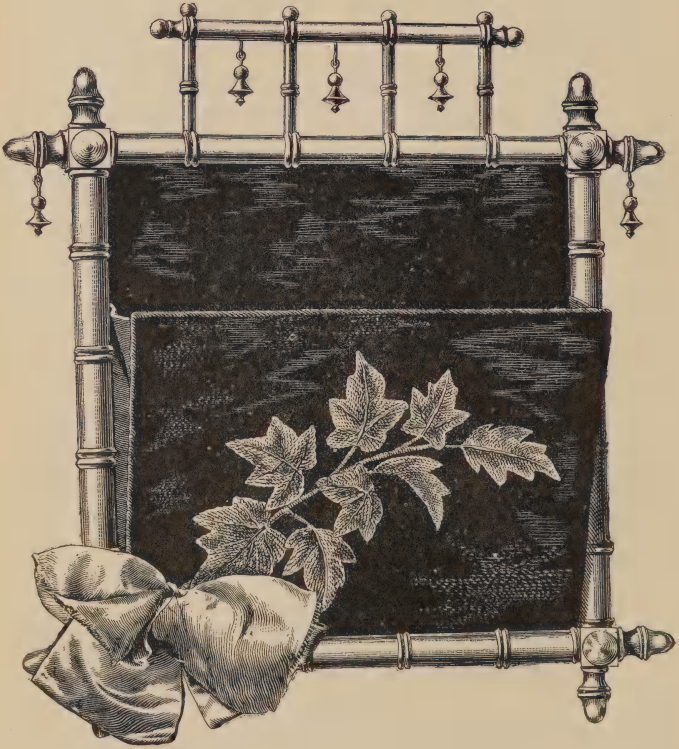


Fig. 55.

through which a brass or wooden rod is passed and secured to the wall by brass screw-eyes. One end of the rod is made to slip off so that the splasher is easily removed to be



Fig. 54.

washed, and replaced again without the usual damage to the wall by tacking. The designs on them are also new and pretty.

A NEWS RACK.

Fig. 55 is a news rack in bead embroidery. The frame is of gilded wood, and the foundation for the embroidery is of deep maroon silk plush. The design of maple leaves is embroidered in metal beads in various shades of olive-green and brown, red-brown and yellow. The work is done very much the same as crewel work, a silk thread being used, and the beads strung on four or five at a time to form a long or short stitch and of such colors as required. The beads can be procured of every color.

THREE-CORNERED TABLE.

Fig. 56 represents a three-cornered table, the frame of which is of gilded wood. The top is covered with shaded blue plush, ornamented with a spray of wild clematis, embroidered in beads, the flowers in steel, and the leaves in cut-gold. The sides are draped with shaded blue plush, caught up in the center of each side by a large silk pompon from which depend soft silk ball tassels. Long "horse-tail" tassels of twisted silk of a Terra Cotta shade, are hung at each corner. A large bow of shaded satin ribbon, tied tastefully at one corner where the flower stems begin, completes this very pretty table.

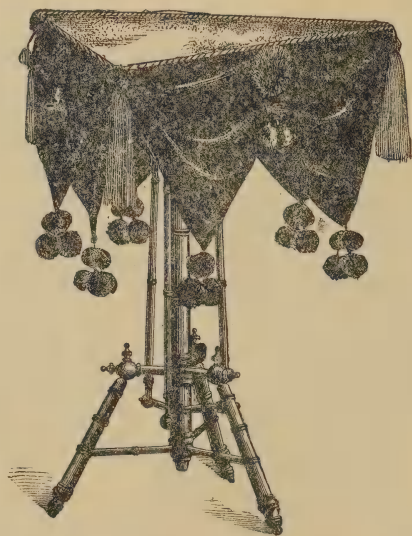


Fig. 56.

APPLIQUE PIANO SCARF.

Fig. 57 is a piano scarf for an upright in the new Mosaic embroidery, or plush applique work. The ground is of lava gray plush and the design of autumn leaves is cut out of a variety of shades of plush, each half leaf being a separate piece and different shade. The pieces of plush are first pasted down on a foundation of crinoline, and when dry, cut out neatly with very sharp scissors and gummed to the plush foundation. The edges are then sewed down firmly with silk of the same shades as the plushes.

The neglect of this sewing down is what has caused many to regard Mosaic work as lacking in durability; but if the edges are well sewed down they will not fray or ravel out. After sewing down, the edges are concealed by a gold or tinsel cord caught down in couching stitches. A few stitches of chenille of darker shade than the plush it is used on, are added to show the veining of the leaves. A very pretty way of adjusting the scarf is to bring up the embroidered end, throwing it over from the back, and letting it hang over the front of the piano.

The work is very easily and quickly done with the exception of the preparation of the pattern, which requires a variety of odd shades of plush not easily obtained by the amateur, and without which the work loses much of its beauty. The patterns, however, can be procured already prepared on crinoline at any of the first-class fancy-work establishments in most of the large cities. They can be easily transferred to any foundation by moistening the crinoline to soften the gum.

A handsome table scarf in "darned work" is shown in



Fig. 57.

Fig. 58. The body of the scarf is of ecru plush. The ornamentation is of alternate squares of ecru satin, darned in a geometric pattern in colored embroidery silk in a variety of

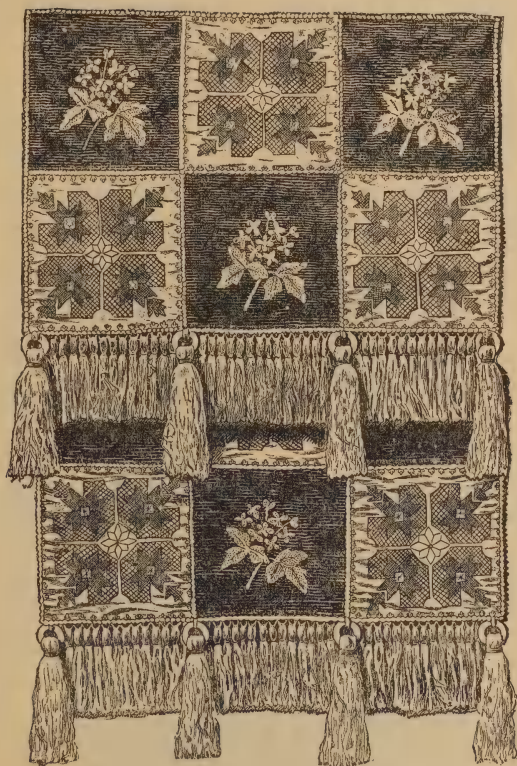


Fig. 58.

stitches, and squares of old blue plush, with a small spray embroidered in gold and steel beads. The ends are finished with silk fringe and four large tassels to correspond with the satin and plush.

It is impossible in an engraving to do justice to this work, the rich, deep tints of which plush alone is capable of exhibiting, being quite lost when represented by printer's ink. Some of the specimens are exquisite, and by many would be preferred to the most elaborate embroidery.



CHAPTER IX.

HANGINGS FOR DOORS, HALLS, AND WINDOWS.—HOW TO MAKE THEM, AND OF WHAT TO MAKE THEM.—ELEGANT EFFECTS AT SMALL COST.—HOW TO USE THE ODDS AND ENDS IN RENDERING THE HOUSE MORE BEAUTIFUL.—COST OF MATERIALS.



PORTIERES. — A beautiful room is far more beautiful when there is no square means of egress suggesting the unpleasant idea of departure. Where, however, the means are limited, one pretty portiere covering, or replacing an ugly door, or curtaining an outside one, gives an air of taste and elegance. Midway in a hall, as in the case of an outer door, drafts are prevented by a heavy fall of drapery.

They should not repeat the curtains of the room, but represent a separate idea, though in harmony with the room. They are frequently made double to correspond with rooms of different colors.

At the end of a long room in a friend's house there was a door with glass at the top, useful in dark days but making an ugly cross light with the windows of the room. The

lady of the house dreamed of rich stuffs while she pieced, out of olive cotton flannel, four bands of *cretonne* in a flower pattern, two narrow and two wide, and a piece of worsted goods flowered on the right side but striped on the wrong, none of it new,—a portiere which has been taken for something rich and strange, and much admired.

The lining was some old calico cut a little wider than the door. At the bottom was a horizontal strip of the olive cotton flannel, then a wide band of *cretonne*, then the striped (wrong side) goods placed perpendicularly, then a narrow band of *cretonne*, then the center of olive cotton flannel with the stripes repeated toward the top.

OLD BLUE BLANKETS.

Another friend had a bare, cheap, new cottage. Money was not abundant. Old grandmother-woven indigo-blue woolen blankets were. She began sewing in little figures, —stars, crescents, and odd stitches in colored silks,—and the woolen blanket became a gorgeous fabric. It was hung with wooden rings on a length of gilded gas pipe midway of the bare hall, and your first impressions on entering were of Eastern richness. The double blanket was more than enough (heavy materials must hang nearly plain), and a piano cover and traveling bag came out of the pieces. The embroidery was the work of time, but it was also a work of delight.

PORTIERE OF CHINESE EMBROIDERY.

On the contrary, a New York friend, with the large opportunities and splendid economy of rich people, bought, at one quarter the original price, four Chinese embroidered

dress patterns, giving "only one hundred dollars for them." With great skill she combined them in one rich portiere for a large double door.

SILK RAG CARPET.

Portieres, as well as curtains, have been made of silk rag carpets,—yes, nothing more or less! Old silks, even soiled and faded, are cut in strips as for carpet, and either woven with cotton warp, or better still, knitted upon fine ivory needles in stripes and tastefully joined together. If one can be content to use only things otherwise worthless, this may be desirable; but the temptation is great to cut up what might be turned to better account.

INGRAIN CARPET.

Another portiere we have seen is a great and lasting success, for it is of solid wool which in fifty years will still be firm of texture and pleasing in color. It is fine ingrain carpet of beautiful olive color, quite plain. It can be bought in a great variety of colors, but olive and crimson have the advantage of fading handsomely.

Down one side of each breadth (there were four, for it covered the space between rooms where there had been double doors) was worked in Germantown wool,—a pattern which was adopted from a Turkish rug. The pattern was outlined in black and filled in with red, pale blue, white, and a little gold-colored filoselle. The effect was so good and the material so durable that a great comfortable sofa with three cushions received a new dress of the same, and the children play on the tough material unimproved.

Let me here suggest that all decoration in homes where

there are children to be thought of (alas! for those homes where there are none) should be of firm, excellent, unfading quality in accordance with the loving spirit of Mary, and not cultivating the anxious one of her sister. The reward, as in all right-doing, will be greater than you expect, for your decoration will be better and in nobler taste.

THE DOVE PORTIERE.

Still another portiere. The idea came from nature's enchanting harmony in an ordinary pigeon's colors,—one of the dove-tinted, blue-green sort. The material to harmonize with a light and "smiling" drawing-room was of heavy, all-wool material, known as diagonal-cloth in a soft dove color. It was lined with pale pink silesia. A border of "crazy quilt" (see discription of crazy or Japanese quilt under chapter on screens) done in blue, green, and dove colors, and faint gleams of rose, was laid on at top and bottom.

VELVETEEN.

Velveteen is a desirable material for either portieres or curtains. Plush is the richest material in use. In one drawing-room we have seen the wide doors from the hall and library filled by portieres of plush, peacock-blue on one side and crimson on the other, without decoration. The effect was very rich, but one's limitations are often suggestive, and where there are limitations there are apt to be more ideas, and the charm of an idea wrought into form is always greater than the mere impression of richness.

SMYRNA BLANKETS, PRAYER CARPETS.

Very odd portieres are brought home by travelers from the East, and imported in great quantities. Stripes of odd

woolen stuff, loosely caught together by coarse woolen cord, and embroidered evidently by hand, odd combinations of red, black, and white can be seen in fashionable houses. "Prayer Carpets," not being needed, are hung up on doors or walls.

CURTAINS.

In furnishing throughout, the curtains and wall-paper should be bought first, and the carpet selected as a quiet accessory. In no case should the floor be very light or brilliant.

PRICES OF MATERIAL.

The price of material does not vary greatly from time to time. The subjoined prices will be found nearly correct for a long time to come:—

Cotton momie-cloth, 50 in. wide, in all colors,	
per yd.	\$1.10
Woolen momie-cloth, per yd.	3.00
Felting, 2 yds. wide, per yd.	1.50
Bolton sheeting, imported from England, per yd.	1.00
Stamped velveteen, per yd.	\$1.25–2.00
Cotton flannel or "fashion drapery," every variety	
of color, per yd.	0.90

This is double width, and alike on both sides so that no lining is needed.

Crash is much used. It is woven by Russian peasants, is of varying width, and in lengths from five to ten yards. Care should be taken to select handsome, even pieces. The widths can be loosely overhanded together, and bands of trimming laid on, or braid, or any stripe of decoration can

be inserted between the widths. A beautiful decoration is a band of Japanese silk piecework in pretty colors, put on at top and bottom.

Unbleached linen and cotton make pretty curtains. The former may be beautifully worked in crewels, either over the entire curtain, or a band laid on. The latter are very pretty with a band of *cretonne* as trimming, or with one of red and one of blue, or one of pink and one of blue, and a gay effect is produced.

SCARFS AND BOOK-CASE CURTAINS.

In a friend's house we have seen an old and awkward book-case converted into two pretty modern ones by sawing the high one in two, and adding, in one case a cornice, in the other a base. Some gold-colored leather was cut in strips, pinked, and tacked with pretty tacks on each shelf, so that much dust was kept from the books. She then added a scarf of old-gold satin, embroidered with a branch of dogwood in Kensington stitch, with a band of plush and a fringe as finish. Thrown over the middle of the book-case, it made a graceful decoration, and afforded a pretty place upon which to arrange a group of bric-a-brac, French crackle ware, and odd vases. A more elegant book-case of ebonized wood had a curtain in front of old-gold satin, with a band about a foot wide of stamped crushed-strawberry velvet. The whole could be pushed aside, for it was hung with rings upon a gilded rod.

The top of an easel can often be decorated with some scarf or piece of stuff which has been in the house unused for years.

PRINCIPLES OF TASTE.

If a lady can give sufficient thought to the subject, and decide upon some good guiding rules, she can often transform, with slight outlay, a bare and ugly house into a pretty and attractive one. Let *use* and enduring quality be in the mind, with the comfort of the household above every other consideration.



CHAPTER X.

SCREENS.—HOW TO MAKE THEM.—MATERIALS.—HOW TO USE
SCREENS TO ADVANTAGE.—HOW TO MAKE SCREENS.—
HOW TO EBONIZE WOOD.—PAINTED SCREENS.—HOW TO
USE DISCARDED MATERIAL TO ADVANTAGE IN COVER-
ING PANELS OF SCREENS.—EMBROIDERED SCREENS.—
HOW TO MAKE THE FRAMES.



NOTHING breaks up the stiffness of a room, and nothing serves so many odd purposes, as a folding screen. A lady, assisted by a carpenter, constructed a large one of four panels to make a dressing-room in one corner of a large bed-room. Since then it has served to conceal the bed from sight in a small hotel room, to hide a Christmas tree from sharp little eyes, and as a background for the model in a studio.

The smaller banner and lamp screens are often very useful and always graceful and pretty. The frame for a panel screen may be constructed by any good carpenter who has well-seasoned wood to work with. The wood should be about two and one-half inches in width for a large screen. The two uprights of each panel look well reaching about two inches below the cross-piece at

the bottom. A screen of three panels, each five feet high and twenty inches wide, is perhaps the best balanced. The illustration here given will furnish all necessary details better than a description.

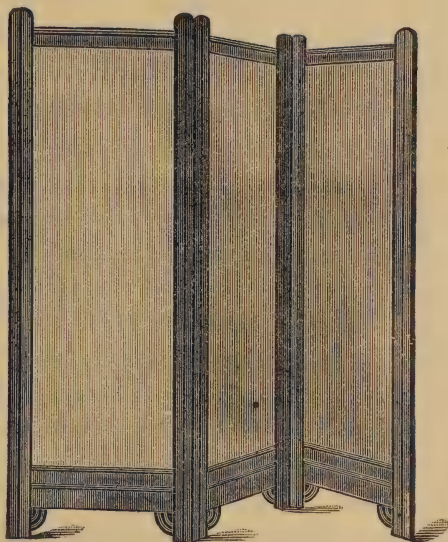


Fig. 59.

Ebonized wood is undoubtedly the favorite wood, as it enhances the beauty of all sorts of decoration. The following is an excellent recipe for

EBONIZING WOOD,

Though a good carriage-maker can do better than any amateur workman: Put a quarter of a pound of best size in a stone pot, with sufficient water to cover it. Set it on

the stove to melt, but do not let it boil. Then three cents' worth of lamp-black, and a little blue black to improve the color, should be made to the consistency of paste with oil. Upon this is poured the melted size, and the two mixed thoroughly together. Apply this while warm to the wood, and paint thickly enough to look solid. When quite dry, varnish with two coats of oil-copal varnish. This should be done in a warm room free from dust. The varnish is put on with a large brush, boldly, rapidly, and evenly.

If the article is to have a polished appearance, two coats of varnish will answer, but three or four varnishings will be needed to give it a dull finish. The rubbing down is done with the finest pulverized pumice-stone, mixed with water to make it about the thickness of cream, and rubbed on with a piece of rag. The rubbing must continue till all inequalities disappear and the surface is as smooth as glass. It has then to be dried with a cloth and polished again with tripoli and sweet oil. After drying a second time with soft linen, rub it with starch powder, and finish it with a clean, soft linen cloth until you can see your face in the polished surface. A single grain of sand or grit on any of the cloths would injure the surface.

BAMBOO SCREENS.

Bamboo screens and easels are very popular. We have known them to be made from fishing rods, but suppose the bamboo must now be imported on purpose.

TRIPODS AND FIRE-SCREENS.

The handsome stands are made of gilded iron, having a solid base, a slender upright, and a cross-piece from which

the banner screen is suspended. In England, where an open fire is in almost every room, fire-screens are much in use. Modern ones are of gilded iron, and screwed to the mantel, the banner protecting the eyes of those sitting before the fire.

AN OLD CLOTHES-HORSE.

This frame-work needs but slight explanation, and can often be found in a somewhat dilapidated condition in the kitchen garret. From thence it can be brought, ebonized or painted in successive coats of Venetian or Indian red, and covered to suit the taste.

THE COVERING AND DECORATION OF SCREENS.

Perhaps the handsomest screens are those which are painted by hand. We own to a prejudice against painting on silk or satin. *Fine* painting should be on a more enduring material, and poor painting should only be done as a stepping-stone to what is better. After putting magnesia on the back and using your oil-color without additional oil, the color will "run" a little.

As for water-color, you have to use body color, (Chinese white mixed with the ordinary water-colors), and the result is a dry surface which seems ready to crack off like white-wash. Nevertheless, we have seen some fine effects produced both with oil and water-color. French artists of name and fame have not scorned fan decoration upon silk and satin. Unless, however, great skill has been acquired, we would advise one of the following methods:—

1. Painting with oil-color upon some kind of canvas intended for the purpose.
2. Painting with water-color upon paper and protecting the work with glass.

3. Embroidery which seems the dower right of rich stuffs, a most natural and beautiful decoration.

4. *Applique* work, either onlaid or inlaid, and—

5. A plain surface adorned with odd bits of decoration, birds, fans, pieces of heavy lace, etc.

As to the first, picture canvas is heavy and very expensive. We have found oil window shading a very good substitute, and we have been told that book-binder's cloth serves equally well. Either can be nicely stretched upon the frame, the edge covered with narrow worsted braid, which comes at a cheap rate in thirty-six yard pieces, and tacked with upholsterer's tacks. This makes the back of the screen neat, and a pretty color of canvas-buff or stone color can be selected.

Flowers have long been a favorite decoration, though many speak of the difficulty of finding designs of sufficient size and importance for a large screen. It is well to decide upon the design for all of the panels before beginning to paint.

A PRETTY IDEA

Is to have the first panel for the spring, the second midsummer, the third for autumn. The first could be either a long branch or double branch of peach or apple blossoms, set, perhaps, in a brown vase upon a pretty table-cover. The background could be a pale yellowish tint. The second might be a mass of roses hanging down from the top with a soft, gray background. The third could be a great branch of white chrysanthemums coming well across the panel from the left, with some crimson and gold blossoms near the frame of the screen, as if one hand held the three branches.

FLOWERS AND FIGURES FROM NATURE.

In studying flowers it is well not to cut them, but paint a selected branch while it still grows and rejoices. A branch of chrysanthemums or azaleas can never be placed as beautifully as it places itself upon the parent stem.

Figures are very appropriate for a screen, but there are not many unprofessional artists who have studied the figure sufficiently to produce satisfactory results. One young lady having great talent, evolved, after some study, a screen from a frame made by a carpenter, and some burlaps for canvas, upon which (it had but two panels) she painted a knight and a lady. She served, with the aid of a long mirror, for her own model for the lady, and an unwilling brother was drummed into service as the knight. The burlaps had a sizing of paste to fill up the interstices and save paint.

A STATIONARY SCREEN.

We have seen a sort of partition screen built across a hall to convert the back part into a boy's bed-room. The frame was painted a dull red. The burlap was stretched, and a pretty group of peacock feathers arranged upon it, with a bow of some gay striped stuff holding the stems. It was in an inconspicuous place, and the effect was excellent.

WATER-COLORS.

Each panel can be divided into sections by a band of wood. The frame is thus strengthened, and neither the picture nor the glass need be so large. In the water-color exhibitions in London, solid screens serve as hanging places for many small sketches which would stand but a poor chance among the large frames on the wall.

CHAPTER XI.

EMBROIDERED SCREENS.—JAPANESE PIECE-WORK.—A PATRIOTIC SCREEN.—NEW USES OF OLD MATERIAL.—A QUEER USE FOR AN OLD CLOTHES-HORSE.—LAMBREQUINS.—TABLES.—CABINETS.—ODDS AND ENDS.—USE UP THE PIECES.



THE variety here is immense. All rich stuffs, plush, satin, silk, and embossed materials, are handsome and may be heavily embroidered, or some slight spray worked upon them.

Sail-cloth makes an excellent panel upon which to embroider figures in outline embroidery. The stamping can be done in most towns, or an ingenious person can transfer designs.

Cretonne makes a pretty screen. It can be embroidered by working in the high lights in silk. Many cover it with embroidery, but this hardly pays. The first screen we ever saw, consisted of one panel, and was made from the rich-flowered dressing-gown of one of the ancestors of the family.

A plain stretch of felting in any pretty color makes a beautiful background on which to arrange a group of

feathers, a stuffed bird, or a pair of Japanese fans with the handles crossed and tied with a bow of ribbon in a pretty contrasting color. A pair of bird's wings, those of wild ducks are very nice, and a fan made of two pretty pieces of wall-paper laid in folds and held together at one end (an ordinary folding fan) with a large bow of ribbon, looks well. This same decoration in larger shape looks well on the wall.

A good use to make of one of those interesting old "samplers" which are stowed away in so many houses is to stretch it upon a pretty stuff panel of a screen and fasten at each corner with a bow of ribbon. If used in a screen with more than one panel, the others may be filled with

JAPANESE PIECEWORK.

Collect a quantity of scraps of ribbon, brocade, satin, velvet, plush, and silk. If the pieces are small and odd in shape, so much the better. Take squares of old muslin, lay over them a half thickness of wadding, then baste on the pieces, turning in or covering the edges. Put them on in as fantastic a way as possible. Many embroider the larger spaces with palettes, crescents, arrows, butterflies, two rings interlocked, or any odd design, and cover all the seams with feather stitch or point *russe*. Much embroidery is not necessary; we have seen blocks which had a loaded appearance. Having finished blocks enough for the space, sew them nicely together, line, and stretch in your screen.

Let us here recommend as a constant friend and helper to one new in the art of designing, an illustrated dictionary. You will find pretty shields, birds, insects, Egyptian symbols, and a host of other suggestive designs.

One panel of piecework could be varied by a diagonal band of plush, or a corner of the same; or the band could be of cloth, and if some learned friend would suggest a Sanscrit or Hebrew motto, it could be cut out and *appliqued* on. We have seen a beautiful hanging with an adornment of this kind, the letters being about six inches in length, and of black on a lighter ground.

We think some ingenious woman could make a

PATRIOTIC SCREEN

Which would be useful and striking. Take the army blue coat which some brave husband or brother wore home. Those belonging to the heroic dead are perhaps too sacred to be converted even into a thing of beauty. The frame could be painted with a succession of coats of Venetian red rubbed smooth with pumice-stone and water. The light blue cloth could be stretched, and the edges at the back of the screen covered with a narrow, dark blue braid and tacked on with fancy brass tacks. Across the light blue field could be laid a diagonal band of dark blue cloth, fastened on with red and gold stitches and with army buttons at intervals. Upon the dark blue could be outlined in red, odd designs, some favorite motto, or a line from an army hymn.

The cap, sword, spurs, and pistol make a handsome group on the wall with a background of crimson felt. Small banner screens (see illustration p. 275) are very pretty. The ground-work is of pale blue satin. The border in *applique* is of dark blue velvet, embroidered in crimson and gold. The leaves are of velvet, and the stems and tendrils of *chenille*. Any material may be used with this design. The cords and tassels are sometimes of beads, but in any case they must harmonize in color.

LAMP SCREENS.

Very pretty lamp screens are made in the same way, and mounted upon smaller tripod stands.

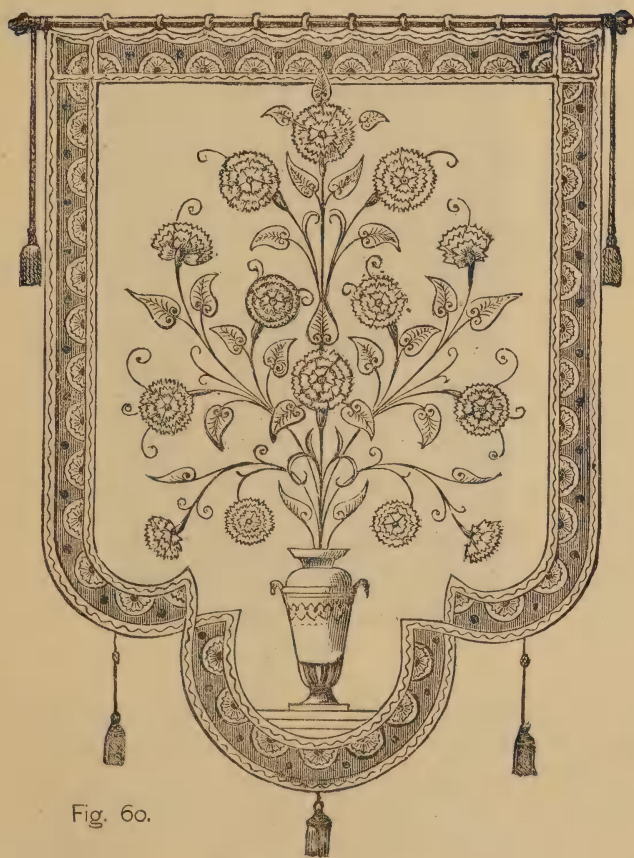


Fig. 60.

ODD FAN SCREENS.

The frame is made of two uprights of bamboo fishing rod joined at the top with a piece of bamboo about two

inches in length, neatly glued and tacked in. The uprights are cut off within about four inches of the floor, and three short legs are fastened on so as to make a firm spread base. The thickest part of the rod serves for these legs, which are cut off so as to stand firm upon the floor. A small square

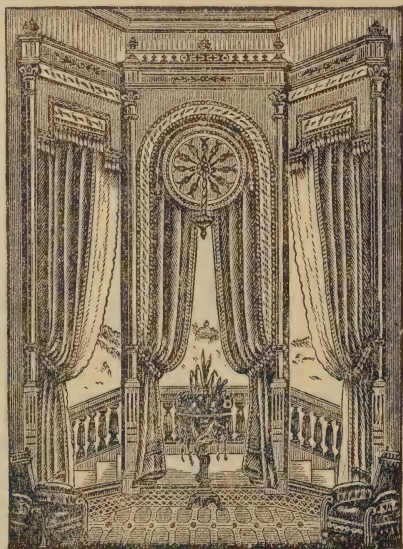


Fig. 61.

of ebonized wood, or a little Japanese tray or box-cover, forms the front of a block in which six Japanese fans are set. The handles have to be somewhat cut off so as to fit the holes and radiate like the petals of a flower. A double purpose is served,—a screen in winter and a fan stand in summer.

Mrs. Gen. Sheridan saw one made from this design, and has ordered several from a handy workman who has learned to join the bamboo nicely.

OLD CLOTHES-HORSE SCREEN.

The frame-work was ebonized, the hinges were made of two long strips of old-gold colored leather, the two making the length of the upright. They were tacked on with brass nails on the right side of one panel, on the wrong side of the other, and vice versa. A little piece of the wood was cut away under the hinges to let the frame fold. The panels were covered with some old linen curtains brought from the garret. They were nicely stretched, covered with Christmas and birthday cards, with a border of fancy paper, then varnished with white copal varnish.

LAMBREQUINS.

They are not as much in use as formerly, being superseded by a valence which will shove aside with the curtains. Their stationary character, and the fact that they exclude the light from the top, whence it is so desirable, has served to make them unpopular, though they are still made in rich material, cut in all manner of forms, and trimmed with fringe and heavy gimps.

TABLES.

Many an old table could be made good-looking and useful by ebonizing the lower part, laying a thickness of wadding over the top, and covering with a piece of crimson felting. Braid or ribbon could be *appliqued* on a band to go round the table, and the edge could be trimmed with worsted fringe. I have seen a half-moon-shaped table covered with dark blue cloth, and with a fall of worsted embroidery which was worked in subdivisions by half a

dozen different friends. A clover-leaf table is now often covered with fine crash, and the fall embroidered in crewels.

TABLE-COVER.

The illustration shows a completed design of an ornamental table-cover. The cover is often made very much

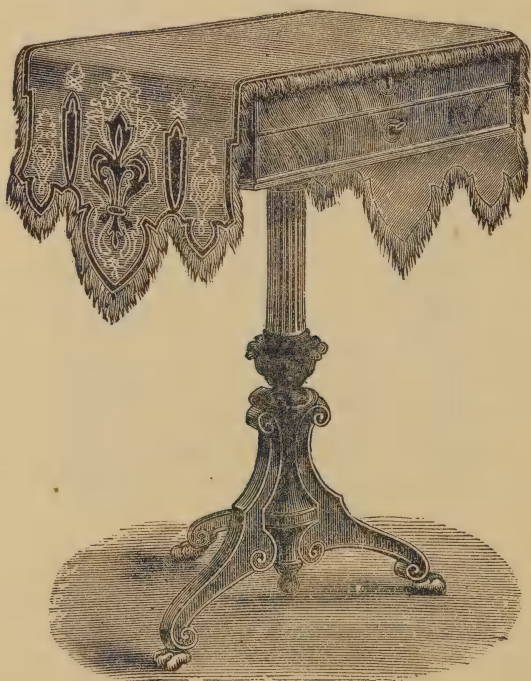


Fig. 62.

longer, affording an excellent opportunity for decoration, and adding, of course, to the cost and labor of making.

This cover is of fawn-colored cloth, ornamented elaborately on the ends in application embroidery.

The design figures which look dark in the illustration are applied in brown cloth; and on each leaf of the large middle application figure, apply a piece of dark brown velvet. Edge all the applied figures with fawn-colored *soutache*, and besides, ornament the pieces of velvet in point *russe* embroidery with fawn-colored saddler's silk. For the lines of the design, sew on broad *soutache* in two shades. The cover is bordered with light brown, open silk fringe, an inch and a quarter wide. The lining is brown percale.

A FRIENDSHIP CUSHION

Is divided by black lines into squares a few inches across, and filled in to suit the taste of each worker.

Japanese quilt, described under chapter on screens, makes a handsome chair or sofa cushion, especially so with a diagonal band of plush across it.

ODDS AND ENDS.

There is just now a great fancy for the old-fashioned flax wheel with a tuft of flax tied to the spindle with ribbons. It is certainly a picturesque object, and very suggestive of the old and charming industry by which our grandmothers furnished their linen closets with the excellent material of which stray table-cloths and tray-cloths come down as heirlooms. We have seen a tiny wheel gilded. It was very pretty, but somewhat theatrical.

CABINETS

Are the rage at present. We saw one lately which had adorned a garret for years. It now occupies the place of honor between the front windows in a handsome house. It

has been ebonized, to be sure, and the panels of the doors gilded, and a border in brown and gold painted across the top of each panel; but the old thing seems puzzled to find itself once more "the top shelf," and seems to consider itself an illustration of the ups and downs in this world.

From Nuremburg have come countless old treasures of this sort. We think perhaps the old and dusty city parts gladly with some of its age and general mustiness, and replaces the old things with new. We Americans, in our newness, are equally charmed to acquire things which were old one hundred years ago. Many fine old cabinets come from Holland, and Italy gives up many treasures to the hordes of Americans who come armed with the invincible dollar.

HALL BENCHES.

Beautiful inlaid hall benches come in great numbers from Milan, Genoa, and Florence. We have heard of three within as many weeks coming to the West. All along the Hudson River there are treasures of old Dutch work to be seen, claw-footed "breeches," a sort of buffet and stout-backed old chairs in mahogany. Once upon a time the garret of one of the old Dutch houses in Albany gave up its own, and the rush of curiosity seekers was immense. The South is now considered a promising field for the old furniture buyer. We have seen a handsome, old-fashioned mahogany sideboard brought from there, which was of use and beauty far beyond the narrow, "high shouldered" things we are accustomed to see.

BE ORIGINAL!

It is a pity that every man and woman in furnishing a house cannot work after the fashion of "The Chambered

Nautilus," making their own house and furniture, or at least having it made, after their own needs and notions. This originality is the great charm of the *antique*.

The furniture was not turned out by the thousand, but each piece was constructed either to fill an order or all "out of the carver's brain," so that to this, to any day, the charm of *human* expression hangs about the work.

I think the rage for the antique in furniture, so far as it is a fashion, will pass away; but interesting old things will always be treasured by those who feel the charm of old associations.

USE UP THE PIECES.

A friend indulged not long ago in some crimson felt for a screen. There were some pieces left. With the largest, she made the center of a scarf table-cloth, putting some striped stuff on each end; and then there were some long ribbons of the felt left. She feather-stitched them in old-gold, and threaded them into a willow chair, where they did much better than ribbons, not fading, and looking more like use. A little piece still remained. She lined it with pasteboard, first having worked the motto, "Fast Bind, Fast Find," upon it, and made an excellent brush-broom holder for the hat rack.



CHAPTER XII.

ENCAUSTIC TILES.—THEIR DURABILITY.—HOW TO USE THEM.
—PAVING HEARTHES.—COST.—MANTELS.—HOW TO GET
THEM.—CABINETS.—HOME DECORATION OF TILES.



NO other like material presents better opportunities for gratifying the desire to embellish and beautify our homes, than the use of Encaustic Tiles. They are made of powdered clay from which all foreign substances have been removed; usually they are in squares varying from one to eight inches; some styles are oblong, others triangular.

Clay can be colored all tints; and the same block, by means of stamps and presses, may have a perfect and pleasing figure of two or more colors. When properly pressed and burnt, these tiles are very serviceable, and when the additional work of glazing is put on, they are well-nigh as durable as stone for the purposes intended.

Whether required for the floors or walls of vestibules, or the ornamentation of hearths and mantels, as well as for other purposes of decoration, their endless variety, their

various shades and colors, combine in forming a material suited to purposes of ornament, and as durable as beautiful.

HEARTHES AND PAVEMENTS.

A hearth or hall can be paved with tiles at a very reasonable cost, (about fifty cents per square foot,) and when once done, the whole always presents a neat and cosy appearance, and is easily cleaned.

The patterns can usually be selected from catalogues furnished by dealers and manufacturers.

It is becoming popular to lay whole floors in tiles, and as people become better acquainted with this material, its use will supersede wood in many cases where durability and beauty are desired.

The tile floor or hearth is laid in mortar, and presents a perfectly smooth surface, the joints fitting closely, and the whole contrasting finely with carpets and furniture.

MANTELS, CABINETS, ETC.

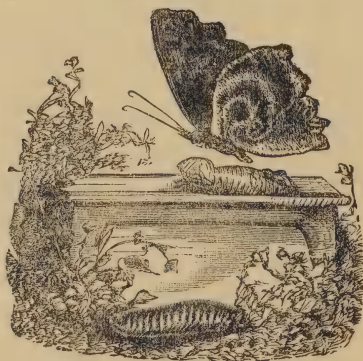
The panels at sides and top of mantels are frequently ornamented with tiles. A very attractive mantel of ebonized or other wood can be decorated in this way, and the whole cost is much less than for the cold and costly slate or marble mantel. The tiles are set in the panels, something after the fashion of a picture in a frame. These are more costly than floor tilings, as they are ornamented with all kinds of designs, comprising such subjects as birds, flowers, foliage, designs from history, Shakespeare, and the Scriptures.

Panels of Cabinets, door-facings, and furniture may be ornamented in the same way, and where the designs consist

of geometric figures, which for the door-facings are appropriate, the cost is low. Small tiles may be set into any furniture desirable, by cutting away the wood to the desired size, and inserting the tile with plaster or putty. As the field of home decoration is comparatively broad, the good taste of the proprietor is about the only guide as to the extent and scope of the work.

Such tiles can be procured six to eight inches square, at a cost of from \$1.80 to \$5.00 per dozen. Persons of decorative talent can buy the plain tiles and decorate them to suit their fancy, returning them to the factory to have the designs burned in; this practice has of late become very popular.

It is advisable to consult catalogues of designs and prices from some reliable dealer or manufacturer, before attempting to do very much in this style of decoration, yet there is no doubt that in a few years examples may be found in almost every home.



CHAPTER XIII.

FURNISHINGS.—THE HALL.—ITS IMPRESSION UPON VISITORS.—THE PARLOR.—DINING-ROOM.—HOW TO FURNISH THEM AT REASONABLE COST.—EBONIZING WOOD.—HOME-MADE MANTELS, RUGS, CARPETS, ETC.



THE suggestions made in the following pages, are offered as such. No authority, however high, can fix rules which will be followed by those whose originality leads them to decorate and furnish their homes in good taste without regard to fashion.

THE HALL.—A very recent and trustworthy writer says: "The entrance of a house indicates the character of the entire building, the lower hall and vestibule often furnishing the key-note to the whole interior. This key-note addressed to the eye should be pitched low; there should be no striking brilliancy of color, although warm tones are admissible, but a leading up, as it were, to the richer hues and more elaborate adornments of the sheltered apartments."

Ordinary halls are too small for much display, if here were the place for display. Where the dimensions of the hall

will permit, a hall table, made of such material as will suggest strength and durability, flanked on each side with chairs of like design, are not out of place. A small bracket,

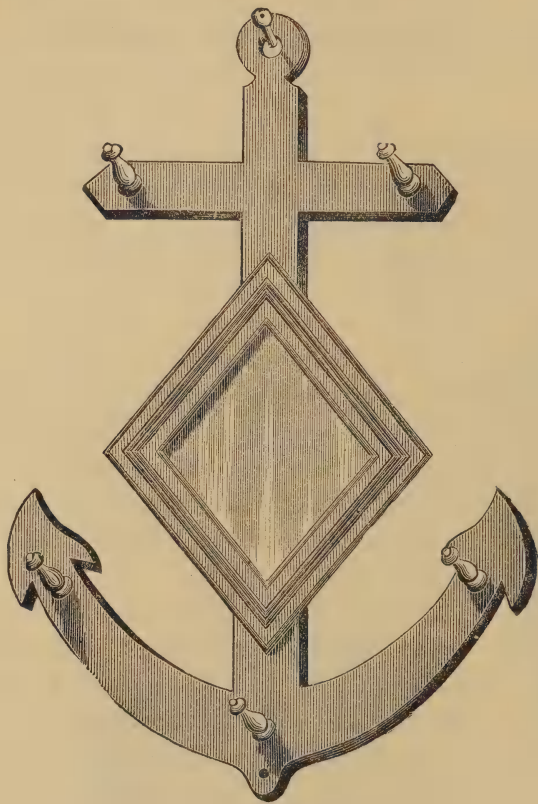


Fig. 63.

supporting an antique jar or other *bric-a-brac*, is often very appropriate, as is also a neat holder for whip or brush, these being valuable adjuncts to any hall.

Where the hall is small, a mirror framed in such a way as to admit of pegs for hats and coats is, perhaps, as appro-

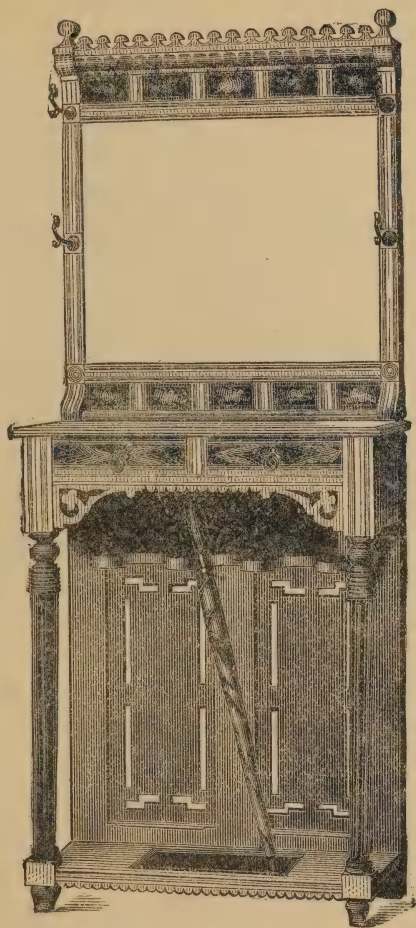


Fig. 64.

priate as can be wished. Fig. 63 gives a very pretty design. Such a design may be cut out with a scroll-saw or by your

own carpenter, and ebonized according to the recipe given in this work, and furnished with a mirror, at little cost. Ebonized wood for such furniture is quite popular.

A more commodious, and of course, more costly, style of hat, coat, and umbrella rack, with mirror and drawers, is shown in Fig. 64.

The floor can be treated as the means and taste of the owner dictate. Tiles have been suggested already, but less costly material may be selected, as oil carpet, or Lineoleum,—a thick, durable covering resembling oil carpet, but made of ground cork. A plain or stained floor with a neat rug often makes a pretty appearance.

THE RECEPTION-ROOM, PARLOR, AND LIBRARY.

The question of first importance in the furnishing of the drawing-room, parlor, or in fact any room, is whether the floor, ceilings, and walls are to be the background for decorative objects, or are themselves to furnish the decorative features. If the walls and ceilings are covered with costly and showy paper, and the floor carpeted with brilliant colors, no furniture, however costly, will show off to good effect, as opinions on the subjects are very decided. Then let this question first be settled before a single step is taken toward furnishing the room. Under chapters I to VII, will be found practical suggestions upon the treatment of walls, ceilings, etc.

Regarding carpets, much might be said and with little effect, as opinions on this subject are very decided. One who gets glimpses of many parlors, has observed that in the average home the carpet is too costly for the other furnishings of the room.

Imitating the Oriental style, many persons of taste have contented themselves with a large rug on a stained floor. Home-made rugs, among people who are not slaves to fashion, are not considered out of place in the parlor. Such

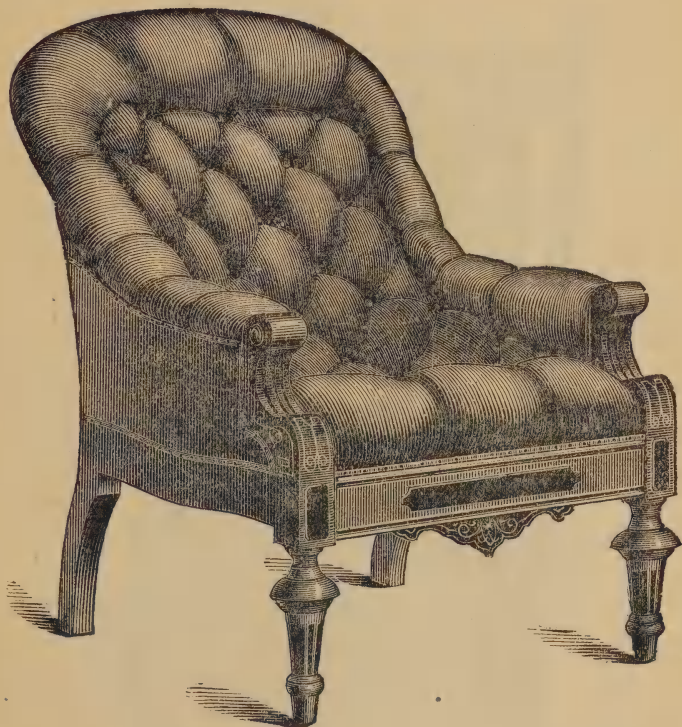


Fig. 65.

people can render an apartment very attractive and at the same time comfortable, with small outlay.

The mantel is a feature that never escapes the eye of a visitor; its contents therefore should receive attention. It

is the place for the display of pretty things, as vases, curiosities, etc.

Many people cannot afford the expensive mantels of marble, carved wood, and marbled slate, but they can

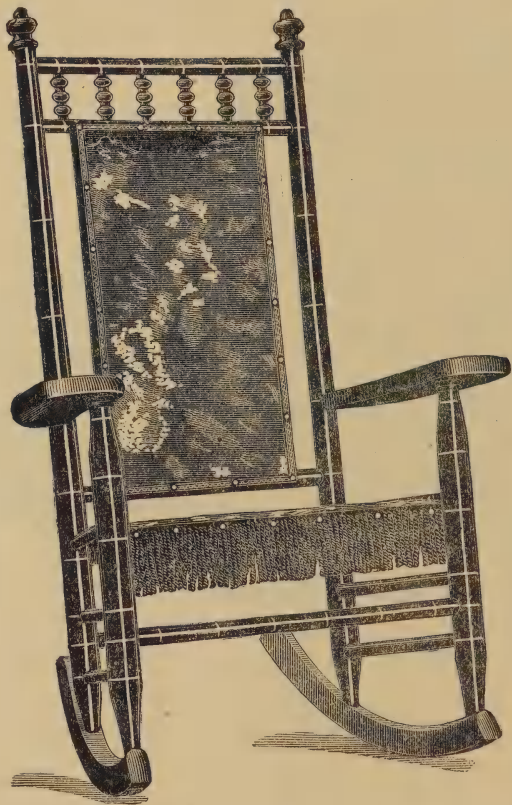


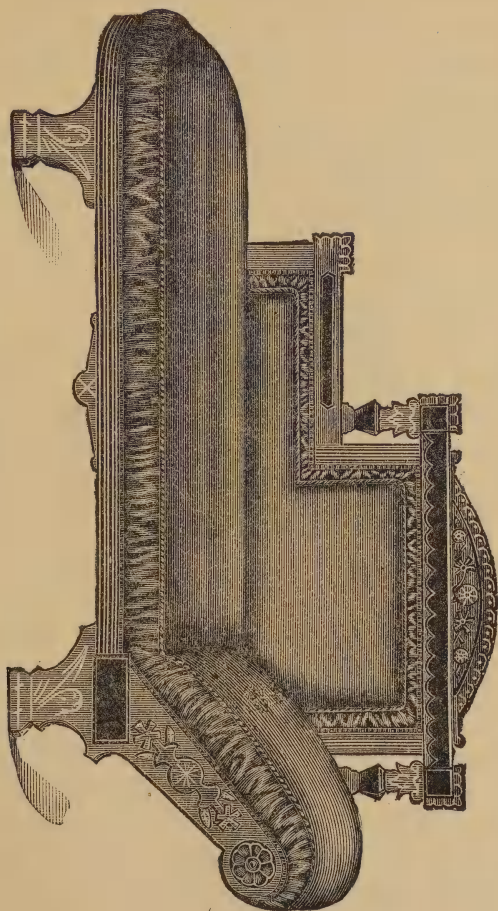
Fig. 66.

afford a plain mantel of wood which they may render very attractive by the following method:—

“Take panels, or squares of glass, and if one is not artist

enough to venture on original designs, select pleasing pictures of birds, flowers, grains, children, animals, or landscapes,

Fig. 67.



from the great chromo-field, cut them out nicely, and gum them upon the glass, face downward, covering the whole

with a coat of paint in shades of blue, lavender, or sea-green. The right side of the glass then bears a fair resemblance to a china painting. These panels are easily and inexpensively made, and when fastened on the wood-work, with narrow black strips or moldings, have almost as good effect as the costlier tile mantels."

The mantel can be ebonized in the same way as the hat rack, and it may be still more improved by placing a long, narrow mirror lengthwise on the shelf.

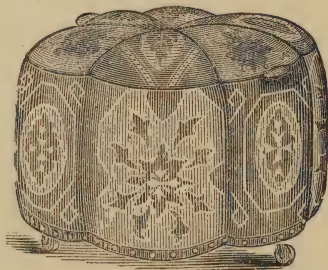


Fig. 68.

Small hanging cabinets, with doors and a shelf above, may take the place of costlier furniture, and indeed, they may serve to set off the larger pieces to good effect. An ordinary carpenter can make them, and if the panels of the doors are decorated with nothing better than transfer pictures well varnished, they will be very pretty.

Chairs should never sacrifice comfort for appearance; large, easy reading or library chairs like those illustrated in Figs. 65 and 66 are suggestive of comfort. A lounge of the style given in Fig. 67 is more useful and graceful than the stereotyped semi-circular settee, while the hassock or stool

with castors, Fig. 68, is far more serviceable than the awkward ottoman.

THE DINING-ROOM.

This room, of all others, should be the most cheerful; good digestion depends upon thorough, careful mastication of the food, which requires time, and no one is apt to give himself ample time in a cheerless dining-room.

At the dining-room table the members of the family are united in motive, and should be in heart. Then let this be a cheerful room. Let the chairs be comfortable, arrange a few choice pictures on the wall, and if a neat sideboard is beyond question, put up wall shelves, and leave them the natural color of the wood finished in oil, and above all else avoid too many mottoes. If it can be so arranged, let the floor be covered, at least around the table, with a good oil-carpet, and stain the floor with some convenient stain, finishing with two coats of shellac, which is easily cleaned.

If the dining-room is also used as a living-room, of course it may be carpeted all over as usual.



CHAPTER XIV.

BED-ROOMS.—HOW TO MAKE THEM CHEERFUL, COMFORTABLE, AND HEALTHFUL. — BED-ROOM FURNITURE. — CHEAP BUT USEFUL FURNITURE.—HOW TO MAKE A BED-ROOM TABLE.—WASH-STAND WITH DRAPERY.



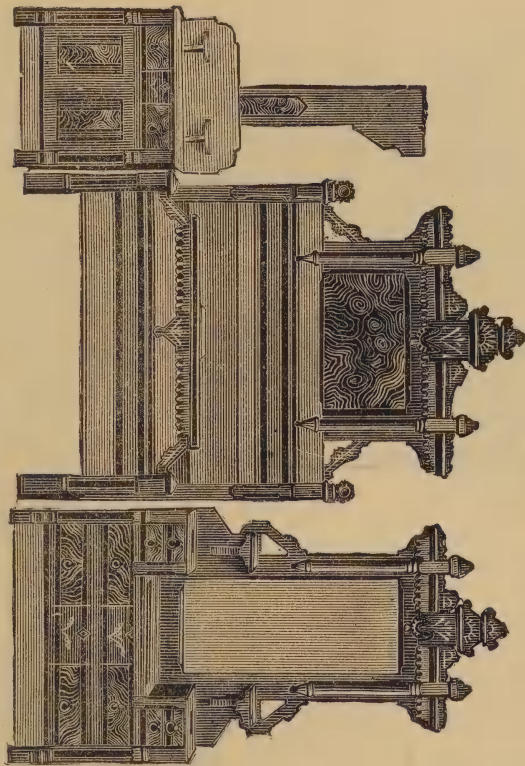
IN the furnishing of bed-rooms, the individuality of the housewife asserts itself very strongly.

When it is remembered that from one-fourth to one-third of our time is spent in our bed-rooms, no argument is necessary to prove that it should be rendered the most pleasant.

Of course the bed itself is the principal feature. Too much is apt to be expended upon the bedstead. More attention should be paid to the springs and mattresses. It is an easy matter from among the multitude of patterns to secure easy and durable springs at reasonable cost. The best mattress is made of hair; for health, the common husk mattress, with wool or cotton top, equals the hair, and is, moreover, very cheap. Avoid high beds; who does not remember the beds of our grandfathers, requiring the aid of a treacherous chair to get into them?

For decorative effect, the bed is the least important feature of the room. Usually the wall-paper, carpet, brackets, pictures, lounge, table, and bureau or dressing-case,

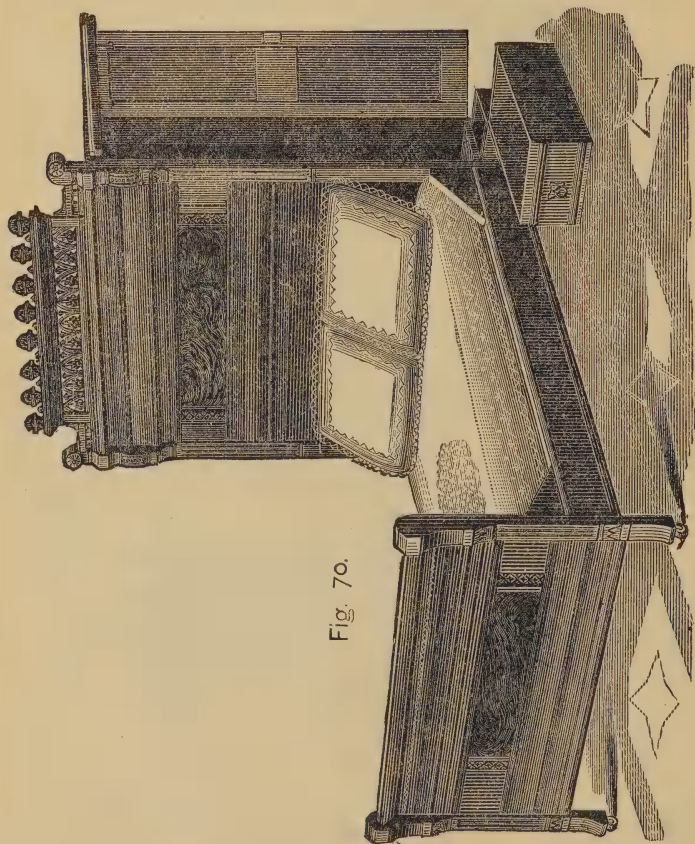
Fig. 69.



if all or a part of these can be afforded, add more to the cosiness of the room, than the bed. It is a good plan to purchase a plain bedstead and devote more to the other furniture.

THE DRESSING BUREAU.

Where it can be afforded, a bureau is very desirable; it should be of size corresponding with the size of the room.



Unless there is a good closet or a table with drawers, the bureau is almost a necessity. Marble tops are to be condemned where articles of glass or fine china come in contact with them.



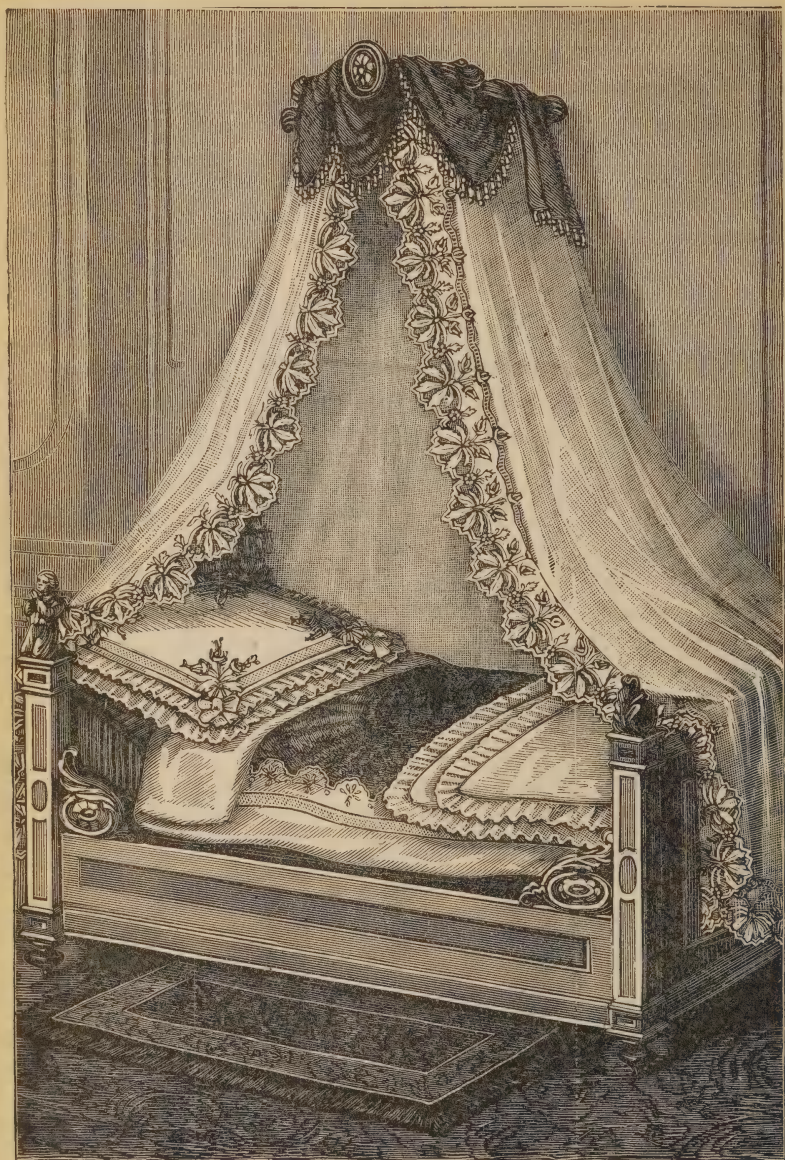


Fig. 71.

A recent writer on this matter says of the bed-room table: "Quite an inexpensive one may be made from a dry-goods box three feet high, four wide, and two and a half feet deep, with four blocks of wood, one inch thick and four inches square, nailed beneath each corner, to which casters are fastened. The box is placed with open side out, and fitted with a convenient shelf or two. The whole interior should be neatly papered.

"On the top at the back, one or two small boxes may be fastened, and the entire top covered with oil-cloth or other suitable material, and the front may be hung with drapery concealing the inside shelves. Another plan would be to sand-paper the outside and finish in shellac varnish. Much ingenuity can be displayed and money saved, by watching the fashion and other journals and carrying out their suggestions."

BEDSTEAD AND DRAPERY.

Our illustration presents a very neat bedstead and drapery. The hangings are of muslin and net, worked in satin and slanting stitch, over-cast at the edges. The green quilted silk counterpane is laid inside a fine linen case, embroidered around the edges and buttoned over the quilt as shown. The pillow is trimmed with lace insertion and a double muslin frill, and embroidered at the corners, where it is also ornamented with a bow of colored ribbon. At the foot of the bed is a second cover of chintz or dimity, also trimmed with lace or frills.

Brackets made with the scroll-saw can be used to advantage to hold books, curiosities, china, etc. The toilet-table or wash-stand affords an excellent chance for the dis-

play of taste, the indispensable *splasher* and towel-rack may be articles of home manufacture, while a neat-figured damask towel will answer quite well for a marble top.

In bed-rooms, where space must be economized, the



Fig. 72.

new style wardrobe and bedstead combined, may be used to excellent advantage. Our illustration gives all necessary details. It will be seen that the wardrobe is located behind the head of the bedstead. At each end is a door opening into the wardrobe, and hooks are attached to a piece which slides in and out.



Fig. 73.

Two drawers for linen are placed in the bottom of the wardrobe, and the whole space is nearly, if not quite, as capacious as a bureau or separate wardrobe. The doors close tightly so as to prevent dust from entering.

Large pictures are out of place in a bed-room. A few engravings,—nothing of the “death-bed-of-Washington style,”—with photographs of a few friends, are very appropriate.

The color of carpet and wall-paper should not be too dark, and the drapings of the windows should be such as to admit the sunlight freely.

Cane or leather seated chairs are sold at such rates that most people can afford them. The easy rocker seems almost indispensable, especially in event of sickness in the household.

Our ideal bed-room is among the best, if not the best, room in the house, except, perhaps, the family sitting-room.

DRAPERY FOR TOILET-STAND.

On the opposite page we give an illustration showing how the commonest and plainest bed-room may be rendered beautiful and attractive by the aid of a little taste and cheap material. The toilet-stand may be a cheap table, with a shelf erected on the top for toilet articles, and a bracket higher up for perfume articles, etc.

Oil-cloth of any desired color may cover the table, cut in any shape to suit the fancy, the edges being bound with braid to correspond. The shelves and brackets may be covered to correspond with the table, and the whole draped with muslin or other material, edged with lace, or trimmed to suit the

taste, or in harmony with the other adornments of the room.

Shelves may be made under the table, and a curtain of coarser material suspended from its edges conceals them. These shelves may be used for shoes, slippers, etc.



PART FOUR.



THE CARE,

CULTURE, *AND* PROPAGATION

OF
FLOWERS.

OD might have bade the earth bring forth
Enough for great and small;
The oak-tree and the cherry-tree,
Without a flower at all.
We might have had enough, enough
For every want of ours,
For luxury, medicine, and toil,
And yet have had no flowers.

Our outward life requires them not;
Then wherefore had they birth?
To minister delight to man,
To beautify the earth;
To comfort man, to whisper hope,
Whene'er his faith is dim,
For whoso careth for the flowers
Will care much more for HIM.

—*Mary Howitt.*

CHAPTER I.

THE CULTURE OF FLOWERS.—HOW TO HAVE THRIVING PLANTS AND ABUNDANCE OF FLOWERS.—USEFUL SUGGESTIONS.—HOW TO CONSTRUCT AND MANAGE HOT-BEDS AND FLOWER-BEDS.



HERE is no employment which tends to the development of the better nature of men and women more than the culture of flowers. However humble the circumstances, the possession and culture of at least a few choice varieties, will make the home more tidy, and lend an air of refinement not to be attained in any other way. An English writer says: "To have a flower garden is to have many friends continually near. Indeed, who will say that flowers do not lend a companionship to those who faith-

fully care for them?"

There is perhaps no better index of refinement in a home than the presence of flowers. It is no doubt very difficult in large cities, where the yards are of small dimensions, to do much in the way of flower gardens, but even there a few varieties, planted in the back yard, can be made

to furnish many a bouquet for the breakfast, dinner, or tea-table.

In the smaller cities and towns, and in the country, no excuse can be offered for the neglect of flowers.

Many plead want of time, but the excuse is not a good one, for but few minutes per day are required, and these few minutes furnish just such relaxation as every one needs to keep away the wrinkles, cares, and perplexities of regular employment; besides, the satisfaction and happiness gained in their care generally repay the possessor for all the attention they require.

BRIEF HINTS ON SOWING AND CULTIVATING.

In the outset do not make the common mistake of most new beginners, and undertake too many varieties at once, giving all the same treatment, for defeat will attend the effort.

A good plan is to procure a seed catalogue, like D. M. Ferry & Co.'s, of Detroit, and others, which will tell you what every flower is, its culture, and when to expect flowers. Select from the catalogue a dozen or more good varieties, and content yourself with their culture until you can secure good results, and then increase your stock.

The following hints will be of value in their care and culture:—

Selection of Varieties.—Success in flower culture depends quite largely upon a judicious selection of varieties. Every sort is, under certain conditions, attractive and desirable; but some of them, while exceedingly beautiful under favorable circumstances, will be most unsatisfactory and little better than weeds under others.

The Soil.—Another great object to be considered is the soil into which flower seeds are to be sown. The soil best adapted to flowering plants generally, is a light, friable loam, containing a sufficient amount of sand to render it porous. A great many varieties will live in almost any kind of soil, except it be extremely dry, calcareous, or of a stiff, heavy character; still, to give them a fair chance for development, some little pains should be taken in adding to the soil, as much as possible, what may be wanting in it. Most flowers are better if produced on plants of most vigorous growth, so the greater portion of the garden should be prepared by deep digging, thorough pulverization, and liberal enriching with large quantities of well-rotted manure. On the other hand, some sorts do best on very poor soil, so a portion of the garden should be left without enriching at all. As the process of germination is shorter or longer in the different kinds of seeds, the patience of the cultivator is often sorely tried with seeds of a slowly germinating character; the patience of a devoted florist, however, is never exhausted in these manipulations, and the certainty of his final success repays him fully for the trouble.

Sowing the Seed.—Nine-tenths of the failures in flower culture come from improper treatment of the seeds and young plants; and we urge every one who makes an attempt to train and care for flowers, to study our descriptions of each variety found in the succeeding pages, observing the following general rules:—

Make the surface as fine and smooth as possible. Do not plant any of the seeds when the ground is wet.

Cover each sort of seed to a depth proportionate to its size; the finest, like portulaca, not more than one-quarter

inch deep; those the size of a pin head one-half inch, and those as big as a pea one inch.

Press the soil down firmly over the seed. After making the soil as fine as possible with the rake, make it, for the smaller seeds, still finer, by crushing the lumps up in the hands.

Procure a bit of lath (it would be better if planed smooth) about two feet long, press the edge down into the soil evenly, so as to make a groove as deep as the seed is to be planted; scatter the seed along this, allowing four or five of the larger, or fifteen to twenty of the smaller seeds to the space one plant is to occupy when grown. Take care not to spill any of the seeds between the rows. Cover the seed by pinching the earth together over it; then turn your lath flat-ways, and press the soil down firmly and evenly.

Put a little stick at each end of each row, so as to mark it, then pull up all weeds that appear between the rows the first day they can be seen. Do not pull plants out of the row unless you are sure they are weeds.

CLASSIFICATION OF FLOWERS.

All flowers, raised from seed, are usually known as Annuals, Biennials, or Perennials.

Annuals are those plants which flower or ripen their seeds or fruits the season they are sown, and then perish. This class of plants is again divided by the cultivator into two classes,—the Hardy, and the Half-hardy or tender kinds.

Hardy Annuals are those which require no artificial heat at any period of their growth, every stage of their development, from germination to ripening of the seed, being passed in the open ground.

They are the most easily cultivated of all plants; the number of their varieties is large, and their flowers, when properly grown, are frequently of most attractive beauty and elegance. It is only to be regretted that they are not generally cultivated to that extent to which their merit justly entitles them. The seed may be sown from the first of April to the middle of June, along the border, in little patches four or six inches square, or in drills, on the spot where they are wanted to blossom; and in doing so, care should be taken to have the different varieties arranged in such a manner as to produce a pleasing effect when they are in bloom.

Half-hardy Annuals are those species that flower and ripen their seeds in the open air, but need the assistance of artificial heat in the earlier stages of their growth. They should be sown in a hot-bed, or in pots in a green-house, if one is available, or in a sunny window. Keep them well shaded, which will prevent absorption by the rays of the sun, and the consequent necessity of frequent watering, which bakes the soil, and does much mischief to seeds of slow growth. Toward the middle or end of May, many of the seedlings will be ready for transplanting to borders; but previous to this exposure, it will be necessary to harden them, preparatory to removal, by gradually admitting air to the frame both day and night.

Biennials and Perennials.—Biennials are those plants that do not generally flower the first year, and are only in perfection one season. Perennials continue to flower several years in succession. The seed may be sown, as has already been stated, at times when the ground is moist, but not very wet, from the first of April to August. Many of them

may be raised in the open ground, like hardy annuals, and transplanted; but tender or half-hardy kinds should be sown as directed for half-hardy annuals. As they do not generally bloom the first year, they may be thinned out or removed from the seed-bed as soon as they are well rooted, and planted either in different parts of the garden, or into nursery beds, in rows a foot apart. The half-hardy or tender biennials must be kept during winter in a greenhouse or dry cellar, and tender perennials must be protected from frost by a cloth or mat being fastened or tied around them, and covered afterward with leaves or litter.

Brief directions for sowing are given in our descriptions of varieties; still, to render success more certain, a careful observance of the above directions, which are based on the practical experience of growers, will be found of great benefit to inexperienced florists.

Hot-bed Culture.—Many varieties of flowers can scarcely be brought to perfection without the assistance of hot-bed or cold-frame, and much care is often necessary in transplanting, sheltering, and pricking out the young plants. It is a work that requires much experience, and no doubt many disappointments will naturally occur. Still, a hot-bed is a necessity, without the aid of which many of our choicest and most beautiful flowers cannot be successfully grown. Experience is a rapid teacher, and the lover of flowers is an apt scholar.

HOW TO MAKE A HOT-BED.

A hot-bed that may be used for the germination of either flower or garden seeds, may be made at little expense in the following manner: If possible, it should be built against

the south side of a shed or board fence, as this arrangement will protect it from winds and will increase the heat. Construct a box or frame of boards, two feet high on the side that is to face the south, and one and one-half feet higher on the opposite side; when the frame is in place, fill it with nearly fresh manure from a horse stable, to the depth of one and a half feet. Fit sashes, with panes of glass lapping like shingles, over the top, and let it stand two or three days, or longer if the weather is cold; now fill in on top of the manure from four to six inches of good, rich, finely pulverized garden soil, which, if of stiff clay, should be mixed with sand, and cover the bed as before; leave it for a few days, taking the precaution to raise a bank of earth around the outside of the frame to further protect it. After a few days, stir the soil and sow the seeds in drills marked with flat sticks. Label the sticks with each variety. Give the bed fresh air each day, and sprinkle with warm water as often as may be required.

Use great care in attending to the bed. When the day is warm the sash should be lifted, and replaced at night, and unless it is cold enough to chill the plants, fresh air should be admitted, at all times.

It sometimes happens that the bed "heats," and it is necessary then to watch it closely. Examine it by plunging the hand down several inches; if it is hot, remove the sash, use water, not cold, and make deep holes in the bed with sticks for the escape of heat, and fill them up when the heat is reduced. If the nights are very cold, cover the frame with mats or blankets. If such a frame is made large enough, garden vegetables can be had several weeks earlier than when grown in the ordinary manner.

Flowers may also be raised by planting the seeds in the pots intended for them, and sinking them in the hot-bed.

THE FLOWER GARDEN.

Where it is possible, flower gardens should be so located as to be shaded from the afternoon sun. Elaborate beds are to be avoided unless one has abundant time to devote to their care. An endless variety of simple designs for beds can be arranged, and the simpler the better for the effect, unless much elaboration can be afforded.

Spade the beds very deep and mix manure, sand, and rotted leaves with the soil, raising them very little above the surface.

For borders, use brick set edgewise, large, smooth pebbles, or narrow planking. Strips of turf, if the grass is kept well clipped, also make a pretty border.

Well-sodded mounds, topped with low flowers, look quite pretty, but in dry weather they are very liable to dry out, and need abundance of water.



CHAPTER II.

DESCRIPTION OF VARIETIES.—A LIST OF BULBS, WITH METHODS OF TREATMENT.—CLIMBERS.—ANNUALS.—VARIETIES SUITABLE FOR ALL PURPOSES.



THE following descriptions will be of great value in the selection of flowers. The list includes all kinds,—Climbers, Bulbs, Annuals, and Hardy Shrubs.

BULBS.

Tuberose.—Of all the summer flowering, bulbous plants, we think the tuberose the most desirable. The flowers are waxy white, double, and so fragrant as to perfume the whole atmosphere for some distance around. They are useful for making button-hole bouquets, in large bouquets, or as single specimens. Each bulb flowers only once, but the smaller bulbs can be set out for future flowering when their growth is completed. A good way to grow tuberose is to fill five-inch pots half full of cow manure, and the remainder with good, rich earth, mixed with sand. Plant the bulbs in this in April, water moderately, and hasten growth by putting in a warm, light place. When the weather has be-

come warm, plunge the pots in the earth, out of doors. They will usually flower before cold weather in autumn; if they do not, the pots can be brought in, and they will bloom in the house.

Cyclamen. — Well-known and universally admired bulbous-rooted plants, producing exceedingly handsome red and white flowers. The seed should be sown in spring, and by autumn will produce a bulb, which if potted and placed in a conservatory or green-house, will blossom the following spring. Propagated only from seed.

Cyclamen, persicum, mixed, green-house variety of great beauty, and many colors.

Madeira-Vine. — Tuberous-rooted climber, with glossy green leaves and delightfully fragrant white blossoms, sometimes called, "Mignonette vine." It is of rapid growth, and from a few tubers, vines will be produced sufficient to cover one side of a cottage. The tubers are tender, and must be protected from frost during the winter.

Lily. — The lily has been, with eminent propriety, styled the "Queen of Flowers," and truly no flower conveys so adequate an idea of queenly beauty, majestic grandeur, and faultless purity, as the Lily. Their culture is simple, and with a little care, failure is impossible. Select a deep, rich soil, enrich it well with thoroughly decomposed manure, and set the bulbs from three to six inches deep, according to size. In the autumn the bed should be protected by a liberal covering of leaves or litter; and care should be taken that the bulbs have proper drainage, no water being allowed to stand around the roots. The bulbs can be transplanted either in spring or autumn, but should be kept out of the ground the shortest possible time. Once firmly established,

they should not be disturbed oftener than once in five years. Many of the varieties force well in the green-house, but are more suitable for parlor culture.

Bleeding Heart.—This is a tuberous-rooted plant, blooming in the spring, and favorably known almost everywhere. It requires only the ordinary culture of border plants. Roots planted in autumn will flower freely in the spring. The roots should be divided every third year. The flowers are a delicate pink color, very graceful, produced continuously from May to July.

Dahlia.—The dahlia has always been a favorite for autumn flowering. The flowers are so symmetrical and perfect, and the range of brilliant colors so wide and varied, that they will always be popular where display is wanted. The roots are tender, and easily injured by frost. They should be set out three feet apart, after all danger of frost is over, and placed in a cool cellar, and not be allowed to freeze during winter. The plants should be supported by tying to stakes.

Gladiolus.—Magnificent plants, with sword-like leaves and long spikes of flowers of every conceivable color and shade. The varieties are now numbered almost by thousands, each year bringing forth new and choice selections which have been produced from seed, this being the only method of obtaining new varieties. The bulb, which is produced from seed, requires three years' growth before being of sufficient size to flower well. They should be taken up on approach of winter, and kept from freezing till warm weather in spring, and then planted out in groups and borders.

Calla.—An old and very desirable plant, either as an

aquatic, or for the ornamentation of the drawing-room and conservatory. Thrives in any light, rich soil when plentifully watered. The seeds, which should be sown in greenhouse in early spring, produce small bulbs in the fall, which should be repotted in rich soil. The production of large plants from seed takes some time, but the beautiful creamy-white flowers are an ample reward for the care and patience bestowed. Half-hardy perennial.

CLIMBERS.

Clematis.—Well known and universally admired climbers, some of the varieties being remarkable for the beauty and fragrance of their blossoms. Fine for covering arbors, verandas, etc., as they cling readily to almost any object. Most of the kinds are hardy, herbaceous perennials, but some little protection in Northern latitudes, through winter, is advised. Will do well in any good garden soil.

Cypress-Vine.—A most beautiful climber, with delicate, dark-green, feather foliage, and an abundance of bright, star-shaped, rose, scarlet, and white blossoms, which in the bright sunshine present a mass of beauty. Planted by the side of veranda, tree, or stakes, and trained properly, there is nothing prettier. The seeds will germinate more freely if warm water be poured on the ground after planting. Tender annual; fifteen feet high.

Gourds.—A tribe of climbers with curiously-shaped fruit, in various colors. Being of rapid growth, they are fine to cover old fences, trellises, stumps, etc. The foliage is quite ornamental, and the markings of some of the fruit quite extraordinary. Do not plant the seed till all danger of frost is over, and select rich, mellow ground. Tender annual climbers; ten to twenty feet high.

Ipomea.—Beautiful climbers, and exceedingly attractive mixed with other climbers. The flowers are of a variety of shapes and sizes, and of an endless number of colors, many being wondrously brilliant, and of graceful form. They are alike good for green-house, for pots and baskets, and for trellises, stumps, arbors, etc. They require heat in starting, and some of the varieties will not succeed out of the green-house. Tender annuals; five to ten feet high.

Maurandya.—Graceful climber for green-house, parlor, baskets, or out-door purposes. Set out in the border with a little frame to which to attach their tendrils, they will be loaded all the season with rich purple, white, and rose, fox-glove-shaped blossoms. The seed should be started in hot-bed or green-house, as without artificial heat, they will scarcely flower the first season. They must be removed to a warm place on the approach of cold weather in autumn. Tender perennial climber; six feet high.

Smilax.—No climbing plant in cultivation surpasses this for the graceful beauty of its foliage. In cut flowers, and for wreaths, etc., it is indispensable to florists. Its hard texture enables it to be kept several days after being cut, without wilting. Nothing is finer for clothing statuettes, vases, etc. Soak the seed in warm water twelve hours, and plant in pots, in hot-bed or green-house, in February, and keep in a warm, moist place. One plant in a two-inch pot is enough. After they have completed their growth and the foliage begins to turn yellow, turn the pots on their sides and withhold water till August, when the little bulb which has formed can be repotted in good, rich earth, and watered freely, and it will grow all winter. Tender perennial climber; ten feet high.

ANNUALS AND PERENNIALS.

Aster.—No family of plants bears such distinct marks of progress as the aster, and none are more eagerly sought. An almost endless variety, always reliable, it is not strange that they should become a necessity. The kinds found in the flower garden are usually French or German, and when circumstances for their growth are favorable, present a constant varying succession of blossoms till frost comes. The taller varieties should be supported by stakes or trellises. The seed should be sown early in spring, and the young plants transplanted from one to two feet apart, according to the height and size.

Begonia.—Ornamental foliage, green-house and stove plants, with many-colored, succulent leaves, oblique at their base. Very useful for ferneries, green-houses, and parlor decoration. Some of the varieties, in addition to their beautiful foliage, produce magnificent blossoms. They have been so much improved, and so many new flowering sorts introduced, that we almost fail to recognize the species. Some are propagated from seed only, others from cuttings. All require a rich soil.

Camellia.—All species of camellias are universally admired on account of their beautiful, rose-like flowers and elegant dark-green, shining, laural-like leaves. They are hardy green-house shrubs of easy culture, requiring only to be protected from frost. The best soil for them is an equal quantity of good sandy loam and peat. They are propagated by inarching, cuttings, grafting, and from seed, the latter being the only method of obtaining new varieties. When the plants are not growing, they should receive but

little water, and when growing freely, can scarcely receive too much. A regular succession of flowers may be obtained from autumn till July, if attention be given to removing the potted and growing plants from a warm to a cooler atmosphere. When the growth is completed, and the flower-buds formed, a cool, sheltered situation is best, for they will be seriously injured if exposed to the rays of the sun.

Calceolaria.—A favorite and universally-admired genus, remarkable for its large, beautifully spotted blossoms, which are very showy, and from which an almost countless number of hybrids have been raised. They are perennial, are grown in pots in the conservatory, green-house, and garden; but few flowers are held in greater esteem. They prefer a turfy loam, a mixture of peat and sand, or a rich, open garden mold, and are propagated from seed or cuttings. Some of them are herbaceous perennials, others shrubby evergreens.

Carnation.—No flower can surpass in delicacy of marking, form, or delicious fragrance, the richly-hued carnation. It has always been one of the most esteemed of the florist's collection, and there is no flower more desirable for the garden. The seed will not produce all double flowers, though a good percentage will be double, and of all shades and colors, many being very fragrant. Sow under glass in green-house or hot-bed, and when of sufficient size, transplant two feet apart each way. New and choice varieties are obtained from seed. Half-hardy perennial; one and a half feet high.

Candytuft.—Universally known and cultivated, and considered indispensable for cutting. All the varieties look best in beds or masses. Seed sown in the autumn produces

flowers early in spring; when sown in April, flower from July to September, and some of the sorts till frost comes. All the varieties are hardy, and easy to cultivate. Single plants transplanted look well, and bloom profusely. Hardy annual; one foot high.

Chrysanthemum.—The following are the old garden varieties, producing flowers white, yellow, and variegated, single and double. They flower in autumn, and are desirable where there are large collections, as they are brilliant and striking. The single sorts are quite as handsome as the double. Hardy annual; one and a half to two feet high.

Chrysanthemum, coronarium, double white.

Chrysanthemum, coronarium, double yellow.

Chrysanthemum, Burridganum, crimson, white center; single.

Chrysanthemum, coronarium, mixed.

Dahlia.—This exceedingly beautiful genus comprises an almost endless number of varieties, all more or less showy in the flower garden in autumn when most other flowers have faded. They are all of easy cultivation, growing freely in almost any soil, from seed sown in spring. The seed should be sown in shallow pans, in March, and the seedlings transplanted to small pots. As soon as danger of frost is over, plant out, one foot apart. These plants will make tubers, which should be taken up in the fall and kept through the winter in a cool, dry place, away from frost, and planted out in the spring, when they will blossom the following autumn. New varieties are constantly being produced from seed, some of them of exquisite beauty.

Fuchsia.—Well-known, half-hardy, perennial, deciduous shrubs worthy a place in every garden. The varieties are

now numbered by hundreds, and some are exceedingly beautiful. They are easily grown from seed, and as cuttings; and from seed many improved varieties are obtained. Sow in March, in shallow pots; prick out in crocks four inches in diameter, when of convenient size, where they can continue to grow till they bloom. As soon as they have flowered, select such as have good points, and change into larger pots. When frost appears, protect the plants.

Heliotrope.—Highly valued for the fragrance of their flowers, and duration of bloom, and are to be met with in most gardens. They succeed in any rich, light soil, and cuttings of the shrubby kinds, taken off while young, strike readily. Half-hardy perennial; one foot high.

Mignonette.—A well-known hardy annual, producing dense, semi-globular heads of exceedingly fragrant flowers, borne on spikes from three to six inches long. Is in bloom nearly the whole season, and the perfume is so fragrant that the whole atmosphere around is perfumed. No garden should be without it. If sown at intervals during the spring and early summer, it will be in bloom till killed by the frost. Seeds sown in autumn will bloom early in spring. Hardy annual; perennial if protected; one foot.

Oleander.—This well-known shrub, originally a native of India, is of easy culture, and flowers freely the greater part of the year. In warm, moist climates, it requires no protection, and attains the proportions of a good-sized tree. The flowers have a salver-shaped corolla, with a crown of torn appendages in the center, and are of a beautiful shade of pinkish-red. They can be produced successfully in the house if the atmosphere is kept moist and warm. Sow seeds in gentle heat in February or March, in light, rich

soil, which must be kept moist. When young plants are three or four inches high, repot in rich soil. The temperature in which plants are grown should not fall below 35°. The young shoots made one season should bloom the next.

Pansy.—These lovely flowers are favorites with all, not only for the brilliancy and variety of their colors, but for the durability of their bloom. Seed may be sown in open ground in spring or summer, or in hot-bed early in spring. Young plants produce the largest and best flowers. The plants should always occupy a cool, partially shaded situation, and the ground cannot be too rich; coolness and moisture are necessary. Transplant when an inch high. Seed sown in July will blossom late in autumn; if sown in October, will bloom the following spring. Hardy biennial; four inches high.

Geranium.—Probably the geranium is better known and more universally admired than any other plant grown. The constant succession and durability of bloom till frost comes, the brilliancy of the scarlet and other colors, and the exquisite markings of the leaves of some of the varieties, render them very desirable for pot culture and bedding. No garden seems complete without a bed of them, and in every collection of conservatory or parlor plants we are sure to find the geranium. *Propagation by seed is the only sure way to obtain superior varieties.* Sow in March, in gentle heat, in well-drained pots. Water moderately, and as soon as the third leaf appears, pot singly in two-inch crocks, exchanging for larger ones as the plants require. As soon as the weather will permit, plunge the pots in open border, and on the approach of frost remove them to a shed. They will blossom the succeeding spring. Propagation for common varieties can be made from cuttings.

Ferns.—Flowerless plants, too well known to need description. Many of the varieties are exquisitely beautiful. There are so many sorts, varying so widely in habit, that to give explicit directions for the culture of each would require a volume of itself. As a general rule they should be kept in a warm, humid atmosphere, and watered abundantly. The soil best adapted to their growth is a turfy, fibrous peat, mixed with sand and leaf mold, and underlaid with pieces of broken crock. In places too shady for other plants to thrive, they grow in great beauty. Coming as they do from every clime, we find them a very interesting study. They are alike good for baskets, vases, rock-work, ornamental plants for parlor or conservatory, and the pressed leaves of some of the varieties are marvels of graceful beauty. Many of the most beautiful sorts are propagated from seed only. Their exceeding grace and beauty will well repay all care bestowed upon them.

Phlox Drummondii.—Remarkable for the brilliancy and abundance of their large, terminal flowers, completely hiding the foliage. The blossoms are of many colors, from pure white to deepest purple, eyed and striped. For masses of separate colors and for cutting for bouquets, they are unsurpassed. The seed can be planted in open ground in autumn or spring, or plants may be started in hot-bed and transplanted. Give good, rich ground, and set plants six inches apart each way. Hardy annual; one foot high.

Snapdragon.—The snapdragon is an old favorite border plant, with dark and glossy leaves, and large, curiously-shaped flowers with finely marked throats. They have been much improved by careful selection, and now are really magnificent flowers. They will blossom the first season

from seed sown in spring, but the blossom will be much stronger the second season. Succeeds best in dry, loamy soil. Tender perennial; two feet high.

Violet.—The violet should not be wanting in any garden, on account of its fragrance and early appearance. A single flower will perfume a whole room. It is well adapted for border or rock-work, and commences putting forth its beautiful double and single blossoms in April and continues through May. Succeeds best in a shady, sheltered place, and can be easily increased by dividing the root. The violet is an emblem of faithfulness. Hardy perennial; four inches high.

Zinnia.—A very showy plant, with large, double flowers, which, when fully expanded, form hemispherical heads, become densely imbricated, and might easily be mistaken for dwarf dahlias. The colors run through all the shades of carmine, lilac, scarlet, purple, crimson, yellow, to pure white. If any single blossoms appear, they should be at once pulled up. Sow the seed early in spring, in open ground, and transplant to one and a half feet apart, in good, rich soil. Half-hardy annual; one and a half feet high.

Chinese Primrose.—These are perhaps the most desirable of all house-blooming plants, and will richly compensate for the little care they require. They are in almost constant bloom all winter, and if the plants be transferred to the border, they will bloom nearly all summer. Though perennial, new plants flower more freely, and seed should be sown every year. Give them a long time for growth before flowering, and do not force the young plants, but simply protect them from frost, and damp, cutting winds. Sow the seed in shallow boxes, filled with good, rich soil,

dusting a little fine earth over them: if covered too deeply, or if the seed be wet and allowed to dry again, they will not germinate. Transplant into pots, and they will be ready for winter blooming in the drawing-room. Tender perennial; six to nine inches high.

Roses.—The rose requires high culture; it should be planted in good, well-drained soil; the ground can scarcely be made too rich. The pruning required will vary with the sorts planted, the rank-growing requiring less pruning than the weak ones. The points particularly to be observed are to prune before the buds start in spring, to cut out all unripe or old and feeble shoots, and to cut back the last season's growth to from one-half to two-thirds its length, according to the vigor of the sorts. Winter protection of tender sorts is accomplished by covering after a few severe frosts, with leaves, straw, evergreen boughs, or earth, or by removing the plants to a cool cellar. With a little care of this kind, the choicest tender roses may be safely wintered, and as they are the only really perpetual roses, they are abundantly worth the extra care. The insects most commonly injurious to the rose—as the *Aphis*, which appear in great numbers upon the young, growing shoots, and the *Thrips*, which prey upon the under side of the leaf, giving it a sickly, yellowish look,—may easily be destroyed by syringing or dipping the plants in tobacco water.

Petunia.—Petunias are unsurpassed, if indeed equaled, for massing in beds. Their richness of color, duration of bloom, and easy culture will always render them popular. They will do well sown in open border in spring, or earlier in cold-frame or hot-bed, and transplanted eighteen inches apart. By the latter process, they will come into bloom

much earlier, though they do perfectly well sown in open ground. Be careful not to cover the small seeds too deep; they like a sandy loam. Tender perennial; one and a half feet high.

Water-Lily.—Hardy, aquatic plant, bearing exceedingly beautiful, fragrant white blossoms, which appear as if floating on the water. They are very much admired, and are constantly becoming more and more popular. Are



Fig. 74.

increased by sowing the seed, or by dividing the roots or tubers. They grow readily in ponds or streams of shallow water having muddy bottoms, and can be grown in aquariums, tubs or tanks, in the house, if there be sufficient mud at the bottom, and the seeds or roots be kept continually covered with water.

Cultivation in Tubs.—For a tub, take a strong barrel, free from tar, oil, or salt, saw it in two, fill this one-third full with fine, black garden soil, or meadow mud if handy; plant the seeds in this mixture, covering them one inch deep, add

water gently so as not to disturb the seed, until the tub is full. This is all the care needed; always keep the tub full of water. Set this on a brick or board platform in any place you desire. The tubs, with their contents, should be placed in a cellar during the winter, kept from frost, and not allowed to entirely dry up.

For Aquariums.—Put in five inches of fine, black loam, cover the seed one inch deep in this, and sift on enough fine sand to entirely cover the loam.

Ice-Plant.—A handsome and curious plant for hanging baskets, rock-work, vases, and edgings. The leaves and stems are succulent and fleshy, and appear as though covered with ice crystals, and look like rock candy. The whole plant is peculiarly brilliant in the sunshine. The flower is white, and not conspicuous. Succeeds best in dry, sandy loam, and in a warm situation. Can be grown in pots or open border, the former having preference. Tender annual trailer; six inches high.

Balsam.—The Balsam or Lady's Slipper, is an old favorite, but has been so much improved by cultivation as to be scarcely recognized. The blossoms are double, though some semi-double and single ones will be pretty certain to appear, and such plants should be removed. The prevailing colors are red and white, the former running into all shades of crimson, scarlet, rose, and purple, spotted and striped. The flowers will be improved by planting in a hot-bed, and transplanting when two leaves have formed, one or two feet apart. Pinch off a portion of the shoots, which will increase the size of the flower and vigor of the plant. Needs a rich soil, and good cultivation, well repaying for both with the abundance of its magnificent flowers.

Ageratum.—A valuable plant on account of the length of time it remains in bloom, and for contrasts of color with the more brilliant varieties. It blooms constantly all summer in the garden, and if removed to the green-house, all winter. Desirable for cut flowers for bouquets. Grows one and a half feet high, and the plants should stand two feet apart. Colors light blue and pure white. Start the seeds under glass, and transplant. Hardy annual.

Abutilon.—Very popular, perennial, green-house shrub, with bell-shaped, drooping flowers, which are borne in profusion nearly the entire year. Well adapted to house culture, and desirable for bedding out in the summer. There are several varieties, the flowers of which vary from pure white and yellow to deep orange and crimson, streaked with yellow. Can be propagated by cuttings, in sand, under glass, during summer. If seeds are sown before April, under glass, the plant will bloom the first season.



CHAPTER III.

WINDOW GARDENING.—HOW TO HAVE FLOWERS ALL WINTER.
—BEST VARIETIES FOR WINTER USE.—HOW TO CARE
FOR THE FLOWERS.—THEIR ARRANGEMENT IN THE
WINDOW.



IN addition to what has been said in the chapters on the culture of flowers, it is thought proper to add a few hints upon the subject of window gardening.

There are but few plants that will not thrive in-doors under proper conditions of light and temperature. A window which admits much light by day should be selected, and as plants must have their periods of sleep, provision should be made for shutting off the bright glare of the lamp at night. A few plants, well cared for, look better than a window full of plants so closely crowded as to cause them to grow spindling and turn yellow.

Regarding soil, the reader is referred to other chapters in this work; but it is well to state that the pots for window plants should be filled to the depth of one or more inches with charcoal, to assist in drainage and to keep the soil sweet.

Care should be used in watering, as plants are easily "drowned out." If during a gentle, warm shower the plants can be so placed as to receive it, they will be all the better for it. They should generally be watered once a day with a watering-pot,—never poured on,—the water being about



Fig. 75.

the temperature of the room. The morning is, perhaps, the best time for watering, and it never should be done while the sun shines upon the plants.

Plants that have flowered all the summer cannot be expected to continue the process during the winter, as they must have a period of rest before they can mature. Those

which are wanted for flowering in winter, must be started late in the summer from seeds or cuttings, or if started earlier they must be set away or laid down till autumn. The bulbous plants for winter use should be laid down in the shade in May, and given no water till September, when they may be repotted, and will become active in a few weeks. Cuttings for winter may be potted in midsummer. Monthly roses, geraniums, fuchsias, heliotropes, callas, be-

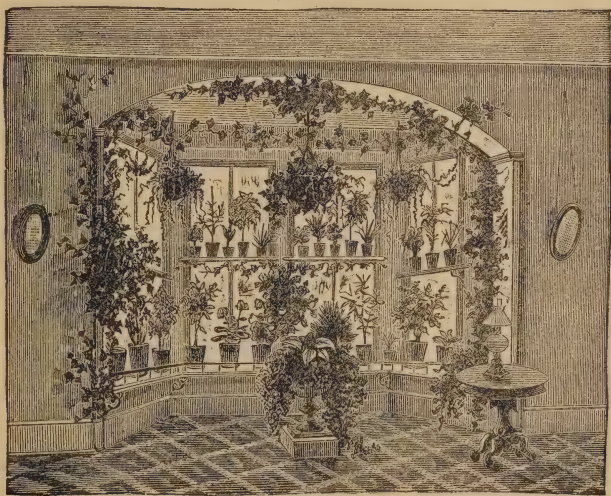


Fig. 76.

gonias; and for climbers, the cypress-vine, nasturtium, and ivy, are the plants that require the least trouble and succeed best.

For supporting the pots, a window box is the cheapest; it can be lined with zinc, and filled in around the pots with moss, if desirable. A strong wire stand, set on castors, is

very handy, as it can be moved around, and is moreover ornamental.

The illustrations given in this department are intended to suggest the methods that may be employed in window gardening, and it is not deemed necessary to enter into a lengthy description of them. On page 329 is illustrated a bay-window. Below is given a good plan where the bay-

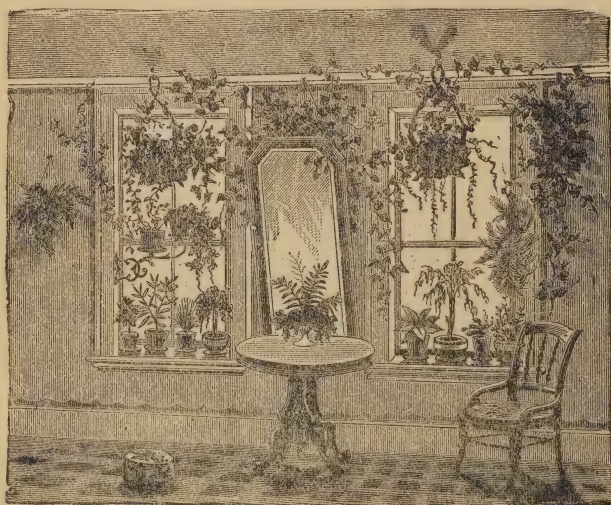


Fig. 77.

window is wanting, and drops a hint as to how an ivy may be concealed behind a mirror, with its graceful loops hanging down on each side, and a small portion just peeping into the glass.

The cut on page 331 shows how the scroll-saw may be employed in window gardening. The lambrequin at the top is made of wood, decorated with the scroll-saw.

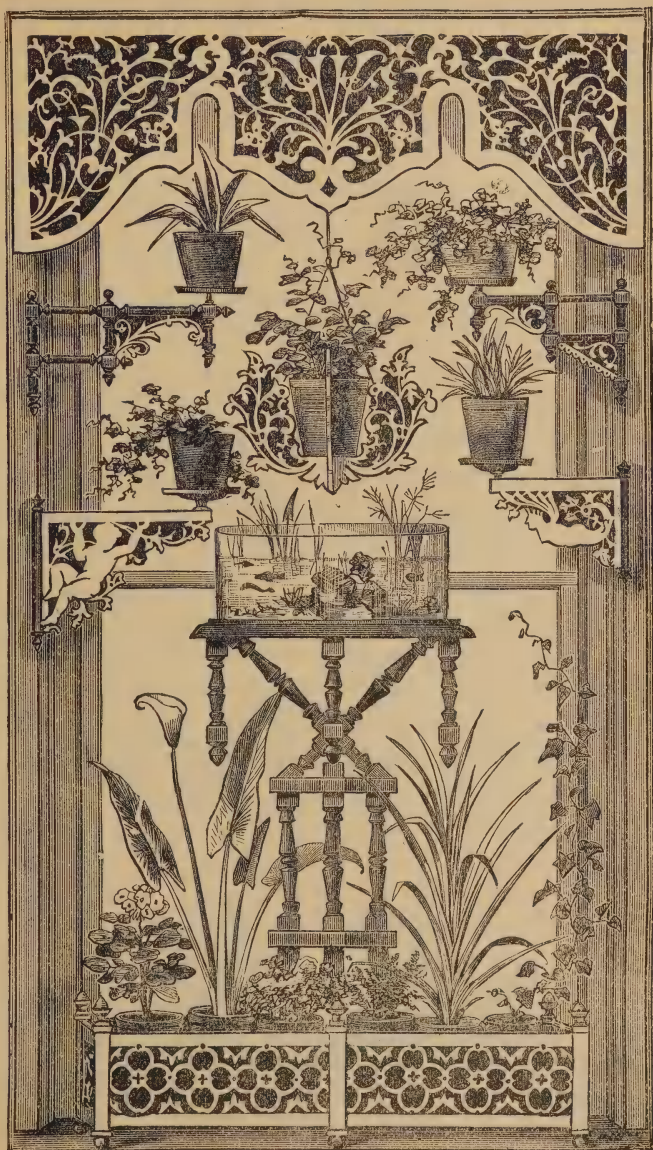


Fig. 78.

We have seen shrubs employed with excellent results, in making a background for the more showy plants; and in one instance a species of maple, eight feet high, in full leaf in midwinter, was perhaps the most admired of the whole collection.

Of course the arrangement of plants in a window or cabinet must depend in a great measure upon the taste of the possessor; but excellent effects can be produced almost anywhere with small-leafed ivy, madeira-vine, smilax, and other hardy climbers, set off by a few showy geraniums, and similar flowers.

One of the principal reasons why flowers bought on the streets or at the markets prove so unsatisfactory, is because they are placed in small pots to save room, in the damp pits where they are grown, and when they come to be transferred to the sitting-room, or balcony, the earth soon bakes, and the flower-buds fall off without opening.

If the common flower-pots in which the plants are growing be placed inside ornamental pots a few sizes larger, and the intermediate space be stuffed with wet moss, the closing up and fading can generally be prevented. A still better plan is to arrange a window box to receive the pots; this should be from seven to ten inches deep, filled with earth or moss, and lined with zinc.



PART FIVE.



Home Employments

FOR



HE following chapters are designed to suggest employments that will beautify the home, and in many instances add to the revenue of the family, and above all furnish such attractive work as will keep the boys of the family at home, and away from the contaminating influences of the streets.

CHAPTER I.

SCROLL OR FRET SAWING.—ITS ORIGIN AND INTRODUCTION INTO THIS COUNTRY.—A SOURCE OF PROFIT TO MANY FAMILIES.—INCREASING USEFULNESS.—MATERIALS THAT CAN BE USED.—BEAUTIFYING HOMES CHEAPLY.



SCROLL OR FRET SAWING.—Within the past five years a new enterprise, if it may so be called, has sprung up in this country to occupy the leisure hours of people of both sexes, and we might say of all ages, and at the same time create unique and beautiful ornaments for our homes. We refer to scroll or fret sawing of fancy articles, which, though pursued for the most part by boys and men, may also, and in fact is to a great extent, pursued by ladies and by girls in their teens, and some of the most ornamental work in scroll sawing and *marquetry* work is done by them.

ORIGIN.

Scroll or fret sawing of fancy articles originated in Switzerland, where even at the present time, in many hamlets, it is their chief support, and the old-style hand-frame

fret-saw is used almost entirely. An American lady, while traveling in that country, having witnessed the numerous ornaments produced there by fret sawing, conceived the idea of introducing this most fascinating work into this country, as a novel and useful mode of recreation. On her return, she brought with her a number of these small saw frames, with a quantity of fine saw blades and patterns. She began the introduction of this charming work, and found that it gave very great satisfaction, and that applicants for these outfits were so numerous that she was obliged frequently to renew her stock from abroad. She then commenced the manufacture of the frames in this country, procuring the fine blades in Switzerland. So rapidly did the interest and enthusiasm in this new enterprise spread that a large firm embarked in the business of furnishing outfits of these hand scroll-saws, and in course of time, the foot-power scroll-saw was invented, which has now almost taken the place of the hand scroll-saw, and which, while doing the work equally well, accomplishes much more in a given length of time. These foot-power machines were first introduced, to any great extent, at the Centennial Exposition in 1876. Since then they have found so great favor that about a dozen different manufactories have sprung up in different parts of the country, and thousands of them are being sold yearly to families, as a source of pleasure, amusement, and profit in the production of some of the most beautiful and ornamental wood-work for the decoration of their homes.

The articles that can be made by the use of the scroll-saw cover a wide field of house decoration, from a richly ornamental bracket for the wall to the most elaborately ornamented and inlaid cabinet, writing desk or clock frame.

Fathers find in these machines that which enables them to spend a good many pleasant hours at home, after their day's work is done, educating their children in those arts which ennoble the soul and create a desire for the beautiful in art, and at the same time decorating their homes with tasteful and elegant articles at little cost.

The simple scroll-saw has already made many homes to rejoice over its wonderful results, in affording all members an agreeable and pleasant recreation, and in not a few instances adding to the slender income of the family from the sale of some of the ornamental articles produced.

Patterns of the thousand and one different articles that can be made by the scroll-saw, are furnished by the manufacturers, and can be procured at almost any of the hardware stores where the scroll sawing machines are sold.

MATERIALS.

The substances that may be wrought into beautiful and useful articles are many and varied. First may be mentioned all kinds of woods, ivory, bone, rubber, tortoise-shell, pearl, and other such materials; also gold, silver, copper, iron, and in fact, any metal not as hard as the saw blade itself, which is made of a good quality of well-tempered steel. Of woods for groundwork, black-walnut, satin-wood, and white holly are the best to work, and they produce the most satisfactory results.

For purposes of inlay work, mahogany, tulip-wood, bird's-eye maple, and ebony are the best adapted. Hungarian ash is also much in vogue, and for groundwork in marquetry it is eminently suitable. Ivory tortoise-shell, mother-of-pearl, and rubber are substances adapted to inlay upon other materials as a groundwork.

In the succeeding pages will be found practical hints upon the management of scroll sawing. No patterns can be given, as they must be of the size of the object to be sawed.



CHAPTER II.

A MANUAL OF FRET SAWING.—PRACTICAL LESSONS WITH
ILLUSTRATIONS.—FINISHING UP THE WORK.—USE OF
SAWS.—SAWING METALS.—USEFUL ARTICLES.—SAWS
AND THEIR PRICES.



THE amateur is frequently in too great haste to “make a bracket,” and does not give sufficient time for practice; especially is this the case with the younger ones, and for this reason many get discouraged. The true way to be successful is to follow instructions explicitly. *No one should attempt to do a nice piece of work until he can saw on a line, or circle, or cut an angle with ease and precision;* for this practice old cigar boxes are the cheapest and handiest.

After you have learned to follow straight and curved lines, the next and only difficult point to learn is to turn a square or sharp corner, as in Lesson I.

How to Use the Scroll-Saw.—Amateurs should first learn to operate treadle, so they can run machine and talk at same time; even write and run saw. Having accomplished this, take a piece of cigar box or other thin board, make straight

and curved lines upon it (do not at first turn round). When you have made the marks, place the board close to the saw, as near the mark as possible, with your hands on top of the board; press down gently—not hard, but always down and forward at an even speed, not by fits and starts. Keep the hands as near the saw as possible. Always use thin lumber first, and saw slowly; as you learn to saw you can learn to use machine to fullest capacity. To saw a bracket or any other piece of work, always place the pattern on the wood so that the grain will run lengthwise of the weaker parts.

Lesson I.—Commence at one end and saw up to a sharp point; now, without stopping the motion of the saw, you want to swing the piece of wood around, using the saw blade as a fulcrum for the center; when you get so you can



Fig. 79.

successfully do this you will find it of great value in executing work rapidly and nicely. At first you will find it a little difficult, for the reason that you do not turn on the actual center of the saw blade; this is caused by your pressing the wood forward slightly while you are turning it; now it should not be pressed in any direction, but if any way it should be held back a little, for the reason that it would then hit the back of the saw blade, which cannot cut; but this will be overcome by practice.

Lesson II.—This is a different practice, but it will require no special instruction. Carefully follow the lines.

Do not crowd or hurry your work. In case the saw works hard, occasionally apply a little soap or bees-wax to the back of the blade.



Fig. 80.

Lesson III.—This is a combination of the line, curve, and angle, but differing from previous lessons in this respect: In the preceding figures our object was to preserve the outside



Fig. 81.

line, in this we preserve the inside. First, drill a small hole at *a*, unscrew the upper saw fastener, and insert the blade through the hole. Now proceed to cut out the design as already described.

Having practiced on these lessons until you can saw true, either on a line, curve, or angle, you will be ready to advance another step in this fascinating art.

Lesson IV.—Making a Bracket.—Having selected a good piece of black-walnut about three-sixteenths of an inch thick, apply to it the design. There are several methods for doing this. The simplest is to paste the design directly upon the wood, using flour paste. After the sawing is done, the paper can be removed by moistening with water, but it is much better to be careful in putting the paste on, and only put it on the part you throw away. You can also secure the

design to the wood with small tacks, driven into the parts of the wood to come away. Another good way: Procure a sheet of "impression paper," lay the paper on the wood, place the design over it; take an instrument with a fine, hard



Fig. 82.

point, and trace around the design. On removing the impression paper, the design will be seen neatly copied on the wood.

It is better to cut away inside work first. Drill holes in every part which requires cutting away; this done, place the wood, with the design upward, on the saw table. The inside of the design being complete, remove the outside in the same manner. Having finished the various parts of the bracket, it is ready for finishing.

Smoothing off Work.—Take a small, half-round file, and file the corners true, and straighten all edges. Take sand-paper and rub the bracket carefully. Under edges will be found ragged, but sand-paper will make them smooth. When a number of thicknesses are sawed, this is obviated.

Putting Work together.—Small brads or screws can be used; if the bracket is quite small, glue alone is sufficient. In case the bracket is intended to carry some weight, use screws.

Oil.—For oiling, boiled linseed oil should be used. Apply to wood, and when it is absorbed, rub over with a stiff brush or soft paper.

Shellac.—Take half-pint bottle of alcohol, fill about one-quarter full of bleached shellac in small pieces. After standing several hours this will be dissolved and ready for use. Apply to the wood with fine sponge or cotton. It dries so very quickly that several coats can be applied in a few moments.

Varnish is frequently used, but it does not give the wood as pretty an appearance as oil or shellac. If used, it must be applied lightly and evenly. There are several kinds, varying in color which must be used according to the color of the wood.

Polish.—To polish well requires practice, care, and patience, and we would not advise amateurs to undertake the work unless they are desirous of so doing. Prepared French polish is generally for sale at paint stores. In the first place, see that the wood is smooth. Use fine sand-paper, and be sure to remove every scratch. Having obtained the polish,—light or dark, according to color of the wood,—soak small bits of tow or cotton wool in the polish, and apply *evenly* to the wood; add more polish to cotton wool, but before applying to the wood place it inside a piece of linen rag, on which put a drop or two of sweet oil—this prevents the rag from sticking; rub the wood again, giving a circular motion to the rag; repeat the supply of polish and oil as required, until the surface is uniformly polished.

Marquetry or Inlaying is a fascinating part of scroll sawing, and is destined to become more popular. At first thought it may seem difficult to inlay one piece of wood into another, but the process is simple when you know how.

For our first lesson we will take a clover leaf, and inlay black-walnut into white holly.

Take two pieces of wood, each one-eighth of an inch thick, walnut and holly; fasten them together, either with



Fig. 83.



Fig. 84.

common shoe pegs or screws. Let the walnut remain on top; secure the design to wood; drill a small hole for the saw blade, the same as in fret sawing, in which insert blade (No. 0); saw with your work on the right of saw blade. From the picture you will readily see how the dark piece of wood will drop down and fit into the light. If the bevel is just right it will leave the work smooth with no gaps. Having cut out the clover leaf, you can secure it in its place. Glue around the edges of the leaf, insert quickly in the holly, and let it harden under pressure. Finish off the work with sand-paper.

Overlaying.—When the amateur has become master of his saw, so that he can saw delicate and intricate work, he should do overlaid work, as this is very neat and a change from other work. Ordinary flat picture-frames can be overlaid with vines and fine tracery. Here is an instance where glue becomes very useful, for one can fasten overlaid work on finished wood, where ordinarily it requires escutcheon pins, but all know it is not pleasant to drive them in light and frail work. Very pretty photograph frames are made by taking a pine board and sawing an oval out of the center and covering the pine with velvet. Fasten the overlaying on

velvet. Designs for overlaying, such as vines or clusters of flowers, a head or any other ornament, can be procured of almost any dealer; but a great many pretty designs for this work can be obtained in such books as the Ladies' Book and Harper's Bazaar.

Silhouettes.—Few articles made with the scroll-saw are more ornamental than Silhouettes. Many designs can be found in books for children. They should be cut from material one-sixteenth of an inch thick, or from veneers. Black and white are favorite colors, or ebony and white holly. It requires a tough wood. The finest and best saws should be used. When veneers are used, they should be placed between two pieces of a sixteenth of an inch in thickness each, and fastened firmly. Silhouettes are used in various ways, by overlaying on polished wood or paper placed on a board for a background. If you possess a treadle machine, you can make decorations for your wall, or even make a nice border. Paste a very dark strip around for the border, then procure white holly veneer and saw out a variety of patterns—you can saw one-half dozen or more at one time. Glue them on the dark border, each equal distances apart. If you wish to saw a perfect likeness of one of the family or a friend, place a piece of paper on the wall, and with a strong light throw a shadow on the paper; now with a pencil trace the features, and with a pantagraph reduce to any size you wish. With a little practice you can do excellent work. You can decorate an easel you wish to give to a friend with his own likeness, by obtaining it in this way and reducing as stated, placing the picture on wood, saw it out and overlay the object to be given away.

Sand-Papering.—To sand-paper flat surfaces, always

use a block. Take two pieces of pine, three by four inches, and three-eighths of an inch thick; through one of them put a few slender screws, just long enough to come through about one-eighth of an inch; file these points sharp, take a piece of sand-paper four inches wide and seven and one-half long, lay one end on the screw points, press the paper over them, place another block on this, and fasten the two together with screws; two sets of blocks are best, one for fine, the other for coarse, paper; lay the work on a bench, hold the board with one hand and rub with the other, giving it a circular motion, and move rapidly; begin with No. 1, finish with No. 00. Another good way for small work: Lay the whole sheet of paper on a bench or level board, turn the piece to be sand-papered down on it and rub. Small work can be done nicely in this way.

FRET SAWING IN METALS, SHELL, PEARL, AND IVORY.

Brass, gold, silver, shell, ivory, and pearl can also be used by Fret Sawyers, many beautiful and useful ornaments being produced by them. It is not generally known, but is a fact, that brass, tin, zinc, and other composition metals, can be cut with the bracket saw almost as easily as wood.

In sawing out thin metals, or thin and brittle substances, the article to be sawed should be placed between two thin pieces of walnut. The design can be placed on the wood as ordinary work, and the wood and metal sawed through at the same time. By this means very delicate work can be wrought, as the wood forms a support for the thin metal. No matter how fine the lines may be, or how intricate the work, with a steady hand and keen eye the saw will cut hair lines as well as coarse ones.

For metal sawing, only the best blades should be used.

Nos. 1, 0, and 00 are most desirable. In this manner, earrings and various articles of jewelry and ornament may be produced.

Beautiful ornaments can also be cut from brass, silver, ivory, etc., for inlaying into woods of contrasting colors. Sheet brass, copper, and other metals can be procured of various thicknesses. A silver coin can be hammered quite thin and flat. With the fret-saw this can be worked up into articles of jewelry, or for inlaying purposes. Silver inlaid into ebony is very beautiful.

Hard, vulcanized India-rubber is manufactured in sheets about two feet square, and is sold by the pound. It can be easily cut, and is very attractive and convenient to use for jewelry, card-baskets, etc. Even a handsome clock case can be made from this material. When sawing rubber, frequently place a little oil on the blade, to reduce friction.

In putting nice work together, it is of importance to do it well, as good work can be easily spoiled. Hinges can be had at most stores, but they are usually too plain for fine work, and we propose to show how an ornamental hinge can be made by means of the fret-saw. Sheet brass, copper, or other metals, can easily be procured of various thicknesses. The best suited for this purpose will range from $\frac{1}{64}$ to $\frac{1}{48}$ of an inch. Upon a piece of metal, the requisite size, trace, with a fine awl point, the design you have selected. Saw out the design, and leave flange sufficient to form a turn or socket, where the two parts of hinge are to be united by a pin. This flange will at first be straight, but by using a pair of small pliers and working it with a light hammer around a steel wire fully as large as the diameter of the pin, it will take a tubular shape. To the other half of the hinge there will be, of course,

two more flanges to be made in the same way. The pin should be fitted as true as possible in order that the hinge may open and shut easily. The hinges should be fastened

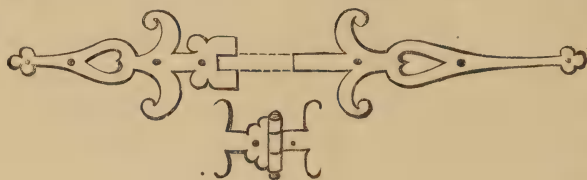


Fig. 85.



Fig. 86.



Fig. 87.

on with small wire pins, holes of proper size being drilled through the metal and wood.



Fig. 88.

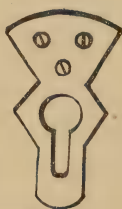


Fig. 89.



Fig. 90.



Fig. 91.

Escutcheons for key-hole ornaments can also be cut from brass and other metals. A few styles are shown above.

Many other small articles from metals can be cut out with the saw. We illustrate two very useful ones. They are metal loops for suspending clock cases, picture-frames, brackets, etc. For this, sheet brass is used. As nail-heads vary in size, the hole by which the loop is passed over the nail should be sufficiently roomy for the largest-sized picture-nail. Fret-work boxes can be still further ornamented by means of corner braces cut in neat designs from brass. These can be cut in pairs by following the directions already given.

SAWS, LATHES, PRICES, ETC.

Some of the higher priced scroll sawing machines, have a turning lathe attachment, and are equipped with a complement of chisels and gouges, by means of which many useful and ornamental articles can be easily turned. Some also have a buzz-saw attachment, a dovetailing attachment, a molding attachment, and buffing and polishing attachments, so that they are adapted to a great variety of work.

The cost of a scroll sawing machine varies from three to twenty-five dollars. With most machines, from six to twelve saw blades are given when it is purchased. The saw blades cost from ten to seventy-five cents each, or from \$1.20 to \$6.00 per dozen, according to size. We present herewith a cut of a scroll sawing machine, to which any of the above-mentioned attachments can be made.

HAND SCROLL OR FRET SAWS.

Persons who do not wish to go to the expense of a scroll or fret sawing machine, but who desire to do ornamental work in the making of brackets, or picture frames, or in-

laying work, can procure small hand scroll or fret saws at an expense of only a dollar or two at the most. These saws will do most of the work that can be done by a machine, but of course it cannot be done as quickly. Marquetry or inlaying work may be done equally as well, and perhaps

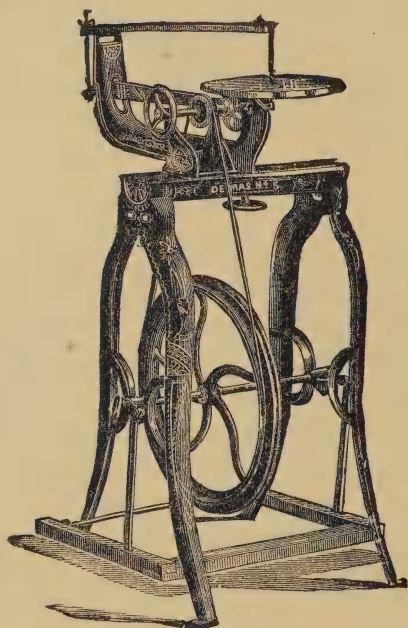


Fig. 92.

better, by the hand scroll-saws. With these saws are usually furnished several blades and a number of designs. They may be procured at hardware stores where scroll sawing machines are kept, or of manufacturers.

An ingenious boy with a few simple tools and an old sewing-machine table, could soon transform one of the above hand machines into an effective foot-power saw.

CHAPTER III.

THE ART OF WOOD CARVING.—ITS ORIGIN AND HISTORY.—
THE TOOLS AND THEIR USES.—ORNAMENTS THAT MAY
BE MADE.—HOW AMATEURS MAY LEARN THE ART.—
DIRECTIONS FOR FIRST ATTEMPTS.



WOOD CARVING.—Within the past few years much attention has been given to carving on wood as a pastime and useful recreation. This is probably the oldest branch of Art within the knowledge of man. Apparently, the first weapon was a club, and the first attempt at decoration was some scratching or carving on it. Among the Ancient Egyptians, Greeks, and Romans, it was much practiced. As a branch of Christian Art it was one of the earliest, and attained a high development in the fifteenth century, as is attested by the elaborate carvings in many of the old cathedrals in Europe. It greatly declined during the last century or two, but has again revived, and promises to attain great importance. The Swiss are noted for their high attainments in the art of wood carving, as they are in their ornamental scroll sawing, and it is perhaps to them that we owe the revival of this art in America.

Carving in wood is an elegant and useful art, and is easily learned. Of course, elaborate work is not easily done; but many articles of utility and adornment may be carved by any boy or girl with only ordinary mechanical ability. It is said that whittling is natural to Americans. Carving is only a higher grade of whittling, in which the jackknife gives place to the chisel and the gouge. It would astonish most people to be shown what may be done with these simple tools. For not only may elegant trifles, such as brackets, book rests, bread plates, paper knives, picture-frames, etc., be made by the home carver, but chairs, tables, side boards, bedsteads, and other domestic articles may be ornamented in this way.

That woman may excel in doing carved work, was shown by the work of the Cincinnati Carving Club, exhibited at the Centennial. What has been done by these ladies may be done by other ladies. It is here worthy of note that carving clubs are forming all over the country, and thereby stimulating hundreds to acquire this elegant and useful art. To aid such as may wish to learn the rudiments of carving, we have prepared the following lessons.

THE USE OF TOOLS.

The first lesson of the amateur is to learn the use of the three principal tools,—the flat chisel, gouge, and veining tool. (See tools 2, 3, and 4, next figure.)

For this lesson take a block of whitewood, or any soft wood, six inches long by two or three broad and one and a half thick. Secure it firmly to a bench; then, with the flat chisel, carve the beveled edges and make the miters perfect. Now take the veining tool, No. 3, which cuts a V-shaped groove, and carve out the design, as given on the next page.

In using this tool, it must be held in the right hand and in a slanting direction. The left hand should be hollowed and placed on the tool, the wrist and tips of the fingers

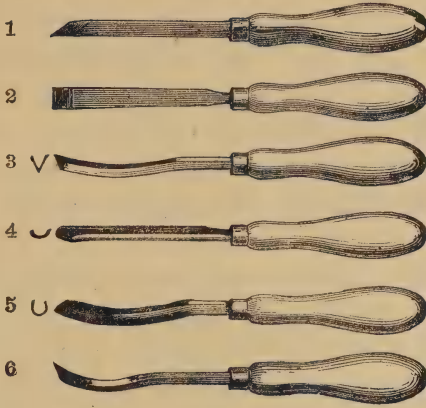


Fig. 93.

resting upon the work. This steadies the right hand and prevents the tool from slipping forward. Now use the gouge, and carve out the circular depression which may be

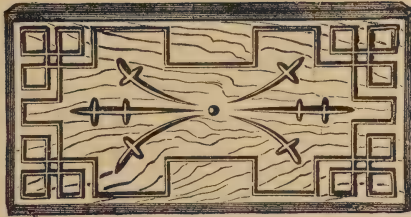


Fig. 94.

seen in the design. Practice on this lesson until you can carve the design accurately.

It is necessary, in order to carry on wood carving, to procure a strong table of deal or other wood, the stronger and heavier it is the better, as nails must be driven into it, and holes bored. It must stand firm and solid and in a good light. The first attempt must necessarily be a simple one, and perhaps an ivy-leaf is the easiest representation that can be attempted. Choose a piece of pine wood about three-quarters of an inch thick, free from knots, and perfectly dry and well seasoned; old pieces such as may be found stored away in many houses would answer well for beginners.

A sketch of the leaf to be carved must first be drawn upon paper, the back of which is then rubbed with red chalk or other coloring matter at hand. This paper is then pinned upon the wood, and the outlines of the leaf pressed over with some blunt instrument, such as a crochet-needle or pin-head, and upon removing the paper the outline will be found upon the wood. Deficiencies in the outline must be corrected in pencil, or, if hard wood is used, in pen and ink. Then follows the first process, known as stabbing out, which is done by holding the chisel upright and pressing directly downward along the outline of the leaf. After the design is thus distinctly outlined into the wood, it is a good plan to deepen the depression made by the chisel, by running the curved gouge round the edge until a groove about the sixteenth of an inch deep is made. The next work is to cut away the wood, and this requires caution.

Until the operator thoroughly understands how to cut with or against the grain of the wood, he should remove as little wood as possible. In clearing the wood between the outlines, it is best to work across the grain, and to begin

cutting out the wood about a quarter of an inch from the outline, shaving very gradually toward it, relieving the wood at each cut, and setting the leaf free. The operator will soon learn by practice the best method for securing accuracy in the outline. This work should be done very carefully until the wood is entirely removed between the pattern edges, leaving the pattern in relief, care being taken always to cut thoroughly and never to tear or dig the wood. Hence the necessity of keeping the tools as sharp as possible. An experienced carver, writing on the subject, remarks: "Leave no rags, jags, or fragments; clear out completely every angle and corner; get your work as smooth as possible with whatever tool you may be using, and let every stroke of your chisel or gouge be regulated by design. By following these rules, by cutting slowly and carefully, a little at a time, by holding the tools firmly and leaving the pattern sloping outward to be finished, the amateur will be surprised at the results obtained after a little practice."

The midribs of the various lobes of the leaf next demand attention. These must first be stabbed out, as in the outline, and then the surface of the lobe must be slanted down to them from side to side. The second stage is but a repetition of the first process, the ground being uniformly lowered, and then the appearance of the leaf claims consideration. "Certain portions of the surface must be lowered to present an appearance of reality," some portions remaining at their original elevation, others being cut or shaved away to present an undulating surface. "Here a knowledge of art is useful in suggesting the proper distribution of light and shade, which must be conveyed by the ingenious use of the gouges of different degrees of curvature. No artificial

means should be used for smoothing or leveling the unequal appearance of the carved surface, but it should remain as the tools leave it.

The study of natural leaves is very important in carving, for by this means a knowledge of the different fibers in various leaves is acquired, and wood carving, from being a merely mechanical amusement, becomes in reality an art.



CHAPTER IV.

PRACTICAL DIRECTIONS FOR CARVING.—HOW TO CARVE A WALL POCKET. — RELIEF CARVING. — CARVED FRET WORK.—ARTICLES THAT MAY BE MADE.—FINISHING THE WORK.—MENDING CRACKED CARVINGS.



WE now give some other lessons, with directions for carving more elaborate pieces and introducing the use of punches, illustrations of which we also give.

CARVING A WALL POCKET.

The accompanying cut shows the outside covering of a wall pocket. The wood to be carved should be black-walnut, 12x14, and one-half inch thick. It must be well seasoned, straight grained, and free from knots.

First, give the outline shape of the design, as seen in the cut which may be done with an ordinary fret saw. Then sketch the pattern upon the wood. A knowledge of drawing will greatly aid the carver, yet in many cases the drawing can be easily made by means of impression paper. Place the wood upon a table or bench, and secure it firmly

by means of a clamp or screws. With the parting tool, No. 3, cut the V-shaped groove for the outline of the design.



Fig. 95.

This figure shows impressions made with five different punches. Having finished the grooving, some of the carving



Fig. 96.

punches are next to be used. First use the punch *c* for making the three circular impressions in each corner. Then with punch *b* go over the design as shown in the figure. The cross-shaped punch *d* can be used to ornament the outer rim. Very handsome ornamental work can be done with only the punch *b*, and for this design it can be used to good effect without the aid of the other punches.

In using the punch, hold it perpendicularly in the left hand, and with a mallet give it a sharp, quick blow. Furniture ornamented in this style looks remarkably well, and the work is easily executed.

RELIEF CARVING.

Our next lesson will be to carve the end of a book-rack with the grape-leaf pattern in relief. The wood, either walnut, oak, or mahogany, should be half an inch thick and six inches wide; but of course the proportions and sizes may vary to suit the wishes of the carver. Having sketched the design upon the wood, the next thing to be



Fig. 97.

done is to "stab out the work." This is accomplished by holding the chisel, No. 2, upright on the line and pressing it downward to the depth of about one-sixteenth of an inch. It is better not to cut exactly in the line, but keep just outside.

When the "stabbing" has been done, hold the chisel slantingly, and cut toward the pattern, thereby removing the wood near it, and leaving it quite free. Then with tools No. 4 and No. 6 clear away the "dead" wood in the intermediate space, leaving the design standing up in relief.

You must notice carefully the grain of the wood. If the grain runs downward, turn the wood around and work the reverse way, or sideways. You will readily apprehend that the whole of the branches and leaves which form the pattern should not lie in one dead level. The thickest portion of the stems, leaves, and grapes should be the highest; the rest of the design must be harmoniously lowered. At this stage you must remove all those parts which the design indicates are to lie very low. You must be careful as you go on to "stab out" the outline again and again, so that you may keep accurately to the copy. Next, you must "stab out" the whole design again, and deepen the groundwork until it is about a quarter of an inch lower than the upper surface. You may then carve the leaves, stalks, and grapes, copying nature as far as possible. In doing this, you will have occasion to exercise your own judgment and taste.



Fig. 98.

The above cut represents the rim of a bread platter ornamented with relief carving.

CARVED FRET-WORK.

Another popular style of carving is "carved fret-work." For this lesson we will take a carved paper knife.

Take a good piece of black-walnut, ten inches long, one

and a half inches wide, and one-quarter of an inch thick. On this trace the design as seen in the figure. With your fret-saw cut out the pattern, as is done in ordinary fret sawing. Now, with your tools carve the design to imitate as closely



Fig. 99.

as possible the natural leaf, flower, and stalk. This being done, with sand-paper and a knife bevel the edges and shape the handle.



Fig. 100.

This figure shows a specimen of fret carving. The dark portion of the bracket shows it simply sawed out with the bracket saw. The other side has been carved.



Fig. 101.

The above cut is a carved molding, in which the leaf and stem are to be left of the original height of the wood,

the other parts being cut away, and the veins are cut with the parting tool, No. 3. It should then be punched with one or the other of the punches.

It is necessary that all tools used in wood carving should have sharp, keen edges. Do not try to carve with dull tools.

The first principles of carving once learned, it is easy for the beginner to adapt them to ornamentation, and in connection with the scroll-saw, for the elaboration of designs for brackets, book-stands, shelves, etc., much artistic work can be accomplished.

When finished, a carving may either be left in the natural condition of the wood, or it may be thought desirable to polish or stain it. Sweet oil mixed with umber will both polish and darken the surface of oak, and various dyes for wood can be obtained at the stores. For ordinary black stain, the best black ink, applied three or four times with a brush, is excellent.

It sometimes happens in carving that a crack or hole is made in the wood. When this occurs, it is a good plan to make some dust with a coarse file from the wood and convert it into a paste with glue and fill the cavity with it.



CHAPTER V.

DYEING AND BLEACHING.

DYEING COTTON.—HOW TO TREAT THE FABRICS.—DIRECTIONS FOR ALL LEADING COLORS.—DYEING WOOLENS
ANILINE COLORS.—COLORING STRAW HATS.—HOW TO
MAKE MORDANTS.



—o—o—o—
VERY frugal housewife has frequent occasion to resort to Dyeing to restore faded but slightly worn garments and other articles of dress to the original or some other color, as well as to color yarns. But she has not always at hand the proper directions for making the dyes, and so many times the professional dyer is given the work.

In the following pages are such direction and recipes as will be found of great value in preparing the garments for and giving them the desired color. It will be observed that separate directions are given for Cotton and Wool as it frequently happens that the bath intended for woolens will not color cotton the desired shade.

This department contains a list of reliable and trust-

worthy recipes for all colors that can be made without the aid of an experienced dyer. The proportions are generally in such quantities as are needed most. In the fixation of color upon cloth, recourse is often had to a *mordant*, which acts as a middle agent and attaches the color to the cloth.

The principal mordants are alum, cream of tartar, and salts of tin. Previous to the application of any color, the cloth or yarn must be well cleansed from grease, oil, etc., by scouring in soda or soap; and except where the material is to be dyed of dark color, the goods are also subjected to the process of bleaching. In case of fabrics which require a smooth surface, the preliminary operation* of singeing off the loose hairs is resorted to.

NOTE.—Many of the within Dyeing recipes are taken from the *PEOPLES' CYCLOPEDIA*, a work which is pronounced by the best critics superior to any other Cyclopedias ever published.

DYEING COTTON.

The following recipes for dyeing cotton apply to 10 pounds weight of cotton yarn or cloth, which is found to be the smallest quantity capable of being well dyed at one time. The proportions of each ingredient may be altered, however, so as to correspond with the quantity to be operated upon.

1. *Common Black*.—Take 3 lbs. sumac, and treat with hot water, steeping the goods in the hot decoction for some hours; wring out, wash for 10 minutes in lime-water, and for 30 minutes in a solution of 2 lbs. copperas.

Wash the goods well in cold water, sometimes repeating the treatment with lime, and rewashing; then work the goods for 30 minutes in a warm solution of 3 lbs. of log-wood, and afterward with 2 oz. copperas; work again for 10 minutes; wash and dry.

2. *Jet Black*.—Proceed as at 1, adding 1 lb. of fustic with the logwood; and when 3 pts. of iron liquor are used instead of the 2 oz. copperas, a more brilliant black is obtained.

3. *Blue Black*.—Use indigo blue vat, then proceed as at 1.

4. *Brown*.—Treat the goods with a yellow dye, then work for 30 minutes in a decoction of 2 lbs. lima wood, and 8 oz. logwood; lift and work with 2 oz. alum for 15 minutes, then wash and dry.

5. *Catechu Brown*.—Immerse the goods at a boiling temperature in a decoction of catechu; then work for 20 minutes in a hot solution of 6 oz. bichromate of potash. Wash in hot water. If the latter contains a little soap, the color will be improved.

6. *French Brown*.—Dye the goods with a spirit yellow, then treat for half an hour with a solution of 3 lbs. of logwood; raise with a little red liquor, work for 10 minutes, wash and dry.

7. *Red*.—Make a hot solution of 3 lbs. of sumac, introduce the goods, and let them stand till the liquor is cold; then wring out and work in water containing in each gallon a gill of red spirits (prepared by adding 2 oz. feathered tin by degrees to a mixture of 3 parts hydrochloric acid, 1 part of nitric acid, and 1 of water), in the cold, for 30 minutes, wring and wash well; then work the goods for 30 minutes in a lukewarm decoction of 3 lbs. of lima wood and 1 lb. of fustic, add a gill of red spirits, work the goods longer, wash and dry. The famous Turkey-red is imparted to the cloth by first impregnating it with an oily or fatty substance, and then subjecting it to a decoction of madder.

8. *Yellow or Straw*.—Work the goods in a weak solution of acetate of lead; then wring out, and work in a dilute solution of bichromate of potash; wring out, and work again in the lead solution; wash and dry.

9. *Leghorn Yellow*.—Proceed as at 8, but add a little annatto liquor with the solution of bichromate of potash.

10. *Spirit Yellow*.—Work the goods through a weak solution of protochloride of tin for 30 minutes, then work in a solution of quercitron bark for 15 minutes. Lift out, and work again in tin solution, and wash in cold water.

11. *Orange*.—Proceed as at 8, and afterward pass through lime-water at the boiling point, finally washing in cold water.

12. *Blue*.—The goods are worked in various strengths of solution of salts of iron, such as nitrate of iron; wring out, wash in water, and then work in solution of yellow prussiate of potash; wring out and wash in water, and then work in solution of yellow prussiate of alum. The various shades of blue may be obtained by using stronger or weaker solutions.

13. *Green*.—Dye the cloth blue, then work in red liquor (acetate of alumina), wash in water, work in decoction of fustic or bark, raise with solution of alum; wash in cold water and dry. The darker shades of green, as olive or bottle green, are brought out by the use of sumac and logwood, along with the fustic.

14. *Lilac*.—Work the cloth or yarn with spirits, (see 7), then in logwood solution at a temperature of 140° Fahrenheit, adding a little red spirits, red liquor, or alum, wash and dry; or dye the cloth blue (12), then work in solution of logwood, add alum, wash and dry.

15. *Purple*.—Soak the goods in a warm decoction of sumac till cold, work for an hour in red spirits, wash, work in hot solution of logwood, then add a little red spirits, and work again, wash and dry. The various shades of purple may be obtained by altering the strength of the chemicals; the more sumac, the browner the hue; and the more logwood, the bluer the purple becomes.

16. *Lavender or Peach*.—Work the goods for 20 minutes in spirit plumb (a strong solution of logwood treated with about one-sixth of its volume of a solution of tin; made by dissolving tin in 6 or 7 parts of hydrochloric acid, 1 part of nitric acid, and 1 of water), wring out and wash well in cold water.

17. *Drab*.—Work the goods in a decoction of sumac, lift, add copperas, rework, wash in water, then work in a mixed decoction of fustic, lima wood, and logwood, raise with a little alum, wash and dry. Catechu is occasionally employed.

WOOLEN DYEING.

A pound of wool woven into common merino measures about 3 yards, common moreen about 2 yards.

1. *Jet Black*.—For 50 lbs. Prepare with $2\frac{1}{4}$ lbs. chrome, boil half an hour, and wash in two waters. Dye with 20 lbs. logwood and 2 lbs. fustic. Boil half an hour, in one water, then rinse in a slight *sour*, moderately warm, wash in one cold water, and finish out of a warm one, softened with a little urine.

2. *Fast Black*.—For 50 lbs. Prepare with 2 lbs. chrome, 1 lb. tartar, and 1 quart muriate of tin; boil 1 hour and wash in 2 waters. Dye with 25 lbs. logwood and 3 lbs.

fustic. Boil 30 minutes, lift, add 1 pt. vitriol. Return for 10 minutes, then wash and dry. To render this *blue-black*, omit the fustic.

3. *French Brown*.—For 50 lbs. Preparation: $1\frac{1}{2}$ lbs. chrome. Dyeing, 6 lbs. cudbear, 1 lb. tartar; and if not dark enough, add 8 oz. logwood. Boil half an hour.

4. *Claret*.—For 50 lbs. Preparation: $1\frac{1}{2}$ lbs. chrome. Dyeing, 9 lbs. lima wood, 2 lbs. logwood, $\frac{1}{2}$ lb. tartar. Boil half an hour.

5. *Purple*.—For 50 lbs. Wash in a preparation of $1\frac{1}{2}$ lbs. tartar, and 1 lb. alum; wash in 3 waters. Dye with 10 lbs. logwood, boil half an hour, raise with 1 quart muriate of tin.

6. *Pale Blue*.—For 50 lbs. 1 gill sulphuric acid, 3 oz. extract of indigo, 1 lb. alum. Enter cold with one-half of the extract, give the other half when the boiler warms.

7. *Pea Green*.—For 54 lbs. 2 lbs. extract of indigo, 7 lbs. fustic, 1 lb. alum. Bring on from the cold, when the boiler heats to 180° Fahrenheit, put in the fustic, boil 15 minutes.

8. *Olive Green*.—For 50 lbs. Prepare with $1\frac{1}{2}$ lbs. chrome; boil half an hour, and wash in 2 waters; then boil 12 lbs. fustic and $2\frac{1}{2}$ lbs. logwood for 1 hour; add 2 lbs. madder and 2 lbs. redwood. Enter; boil half an hour. Raise in the same liquor with 4 oz. blue-stone; wash well and dry.

9. *Drab*.—For 50 lbs. 7 lbs. fustic, 8 oz. madder, 4 oz. cudbear, 2 lbs. alum, 8 oz. tartar. Enter between the cold and 160° Fahrenheit; after heating up, boil from 10 to 30 minutes; wash in 2 waters. All dark shades of this and the following color may be slightly prepared with chrome; wash in 2 waters.

10. *Slate*.—For 50 lbs. 1 lb. logwood, 4 oz. fustic, 8 oz. extract of indigo, 2 lbs. tartar, 2 lbs. alum. Work as for drab.

11. *Yellow*.—For 40 lbs. $2\frac{1}{2}$ lbs. quercitron bark, 2 lbs. tartar, 2 quarts muriate of tin. Enter at 150° Fahrenheit; boil 30 minutes.

12. *Amber*.—For 40 lbs. Boil 4 lbs. quercitron bark and 8 oz. madder. Add 2 quarts muriate of tin, 1 lb. tartar. Enter at 200° Fahrenheit; boil 30 minutes.

13. *Orange*.—For 50 lbs. Boil 10 lbs. quercitron bark and $1\frac{1}{2}$ lb. cochineal. Add 2 lbs. tartar, $2\frac{1}{2}$ quarts yellow spirits. Enter at 200° Fahrenheit; boil 30 minutes.

14. *Rose Color*.—For 40 lbs. 1 lb. cochineal, 3 gills double muriate of tin, 1 lb. tartaric acid. Enter at 100° Fahrenheit, heat up; boil 15 minutes; lift, and cool to 120° by throwing out part of the liquor, and filling up with water; add 1 gill ammonia paste, 12 oz. tartaric acid, 6 oz. oxalic acid. Bring up to boiling; when the desired shade is reached, wash well and dry.

15. *Scarlet with Cochineal*.—For 50 lbs. Boil 4 lbs. cochineal and $1\frac{3}{4}$ lb. quercitron bark. Add 3 lbs. tartar, 2 qts. scarlet spirits. Enter at 200° Fahrenheit; boil 1 hour; wash well. Sour before dyeing, either cold or warm; wash in 1 water and take out.

Aniline Colors.—No mordant is necessary for these colors when used on silk or woollen; the proper quantity of clear liquid is mixed with slightly warm water, the scum skimmed off, and the goods entered and worked until the required shade is obtained. For dyeing cotton, the cloth is steeped in sumac or tannic acid, dyed in the color, and then fixed by tin; or the cloth may be sumaced and mordanted as usual with tin, and then dyed.

Mordants are solutions used to fix colors and may be made from several common chemicals. A good one is made by mixing copperas and acetate of iron in proportion of four of the former to six of the latter. Immerse the cotton or linen to be colored, in this before putting in color vat. Mordants must be used in dyeing cotton fabrics, as they *fix* the color.

Before using *Cudbear*, it must always be drenched with a little hot water, to the consistency of paste; then scald or boil it as occasion may require.

A solution of *tannin* or *sumac* makes a good mordant. Alum or cream of tartar will answer.

"*Sour*," referred to in some recipes, is made by stirring into clean water enough sulphuric acid to give a sharp taste. The acid can be procured at any druggist's.

To Color Straw Hats or Bonnets a Beautiful Slate.—First, soak the bonnet in rather strong warm suds for 15 minutes, to remove sizing or stiffening; then rinse in warm water, to get out the soap; now scald cudbear, 1 oz., in sufficient water to cover the hat or bonnet; work the bonnet in this dye, at 180° of heat, until you get a light purple; now have a bucket of cold water, blued with the extract of indigo, $\frac{1}{2}$ oz., and work or stir the bonnet in this until the tint pleases; dry, then rinse out with cold water, and dry again in the shade. If you get the purple too deep in shade, the final slate will be too dark.

Dye for Feathers.—Black: Immerse for two or three days in a bath, at first hot, of logwood, eight parts, and copperas or acetate of iron, one part. Blue: with the indigo vat. Brown: by using any of the brown dyes for silk or woollen. Crimson: a mordant of alum, followed by a hot bath of

Brazil-wood, afterward by a weak dye of cudbear. Pink or Rose: with saf-flower or lemon juice. Plum: with the red dye, followed by an alkaline bath. Red: a mordant of alum, followed by a bath of Brazil-wood. Yellow: a mordant of alum, followed by a bath of turmeric or weld. Green Dye: take of verdigris and verditer, of each one ounce, gum water 1 pt.; mix them well, and dip the feathers, they having been first soaked in hot water, into the said mixture. For Purple, use lake and indigo. For Carnation, vermilion and smalt. Thin gum of starch water should be used in dyeing feathers.

BLEACHING.

To Bleach Sponge.—Soak it well in dilute muriatic acid for twelve hours. Wash well with water to remove the lime, then immerse in a solution of hyposulphate of soda, to which dilute muriatic acid has been added a moment before. After it is bleached sufficiently, remove it, wash again, and dry. It may thus be bleached almost white.

To Whiten Lace.—Lace may be restored to its original whiteness by first ironing it slightly, then folding it, and sewing it into a clean linen bag, which is placed for twenty hours in pure olive-oil. Afterward the bag is to be boiled in a solution of soap and water for fifteen minutes, then well rinsed in lukewarm water, and finally dipped into water containing a slight proportion of starch. The lace is then to be taken from the bag, and stretched on pins to dry.

Bleaching Straw Goods.—Straw is bleached by simply exposing it in a closed chamber to the fumes of burning sulphur, an old flour barrel is the apparatus most used for the purpose by milliners, a flat stone being laid on the ground,

the sulphur ignited thereon, and the barrel containing the goods to be bleached turned over it. The goods should be previously washed in pure water.

To Clean Ostrich Feathers.—Cut some white curd soap in small pieces, pour boiling water on it and add a little pearlsh. When the soap is quite dissolved, and the mixture cool enough for the hand to bear, plunge the feathers into it, and draw them through the hand till the dirt appears squeezed out of them, pass them through a clean lather with some blue in it, then rinse them in cold water with blue to give them a good color. Beat them against the hand to shake off the water, and dry by shaking them near a fire. When perfectly dry, coil each fiber separately with a blunt knife, or ivory folder.

Bleaching Powder.—Chloride of lime makes a good bleaching powder. The stuff to be bleached is first boiled in lime-water; wash, and without drying, boil again in a solution of soda or potash; wash, and without drying, steep in a weak mixture of chloride of lime and water for six hours; wash, and without drying, steep for four hours in a weak solution or mixture of sulphuric acid and water; wash well and dry. Upon an emergency, chlorate of potash, mixed with three times its weight of common salt and diluted in water, may be used as a *bleaching liquid*.

Bleaching Ivory.—Antique works in ivory that have become discolored may be brought to a pure whiteness by exposing them to the sun under glasses. It is the particular property of ivory to resist the action of the sun's rays, when it is under glass; but when deprived of this protection, to become covered with a multitude of minute cracks. Many antique pieces of sculpture in ivory may be seen, which,

although tolerably white, are, at the same time, defaced by numerous cracks; this defect cannot be remedied; but in order to conceal it, the dust may be removed by brushing the work with warm water and soap, and afterward placing it under glass. Antique works in ivory that have become discolored, may be brushed with pumice-stone, calcined and diluted, and while yet wet placed under glasses. They should be daily exposed to the action of the sun, and be turned from time to time, that they may become equally bleached; if the brown color be deeper on one side than the other, that side will, of course, be for the longest time exposed to the sun.

To Bleach Prints and Printed Books.—Simple immersion in dilute muriatic acid, letting the article remain in it a longer or shorter space of time, according to the strength of the liquor, will be sufficient to whiten an engraving; if it be required to whiten the paper of a bound book, as it is necessary that all the leaves should be moistened by the acid, care must be taken to open the book well, and to make the boards rest on the edge of the vessel, in such a manner that the paper alone shall be dipped in the liquid; the leaves must be separated from each other, in order that they may be equally moistened on both sides. The liquor assumes a yellow tint, and the paper becomes white in the same proportion. At the end of two or three hours the book may be taken from the acid liquor, and plunged into pure water with the same care and precaution as recommended in regard to the acid liquor, that the water may touch both sides of each leaf. The water must be renewed every hour, to extract the acid remaining in the paper, and to dissipate the disagreeable smell. Printed paper may also be bleached by sulphuric acid, or by alkaline or soap leys.

Washing Fluid.—Take 1 lb. sal-soda, $\frac{1}{2}$ lb. good unslaked lime, and 5 qts. of water; boil a short time, let it settle, and pour off the clear fluid into a stone jug, and cork for use; soak your white clothes over night in simple water, wring out and soap wristbands, collars, and dirty or stained places; have your boiler half filled with water just beginning to boil, then put in one common tea-cupful of this fluid, stir and put in your clothes, and boil for half an hour, then rub lightly through *one suds only*, and all is complete.



PART SIX.



HOUSEHOLD COMPENDIUM

OF



 HIS department embraces a list of Recipes, many of which have appeared in no other work, and the whole list may be relied upon as practical, easy, and effective. The following classification of subjects has been introduced for the benefit of the reader: Hints on Health, Hints on Home Adornments, Toilet Recipes, Dyeing and Bleaching, Cleaning and Scouring, Varnishes and Paints, Cements, and Miscellaneous Recipes.

THE

HOUSEHOLD COMPENDIUM.

Hints on Health.



DISINFECTANT FOR SICK-ROOMS.—Let a reliable apothecary put up for you in a small bottle four ounces of ninety per cent alcohol and one ounce of thirty-six per cent nitric acid. One-half of this mixture will disinfect a room fifty feet long, thirty feet wide, and twelve feet high. One large spoonful of it (one-half ounce) will disinfect a large bed-room containing 1,200 cubic feet of air-space. Two tea-spoonfuls of it (two drachms) will disinfect a bed-room nine feet square, and seven and one-half feet high. A tea-spoonful (one drachm) is sufficient for 300 cubic feet of air-space.

The method of using the mixture is as follows: Put the quantity to be used in a porcelain capsule (a tea saucer will do), set a pan of warm water in the room to be disinfected; let the capsule or saucer containing the disinfectant float on the surface of the warm water. The mixture in the float-

ing capsule or saucer will evaporate by the heat of the water, and the vapor will effectively disinfect. Don't try to evaporate it on a stove, over a lamp, or by a fire; mischief would result. Use exactly warm water to effect evaporation and nothing else. Use only porcelain to hold the mixture, for it will corrode metal. It will also spoil a good spoon. Label the bottle "poison," for it would be very dangerous to take it instead of medicine. The chemist will perceive that the disinfecting vapor evolved is nitrate of ethyl. The alcohol is in excess and so saturates the acid products of the reaction that they are not disagreeable, while they are equally effective.

The material, in the quantity necessary to use, is very cheap, and the method of using it, when clearly understood, is very simple. The vapor evolved, while inoffensive, destroys infected dust and germs of putrefaction floating in the air of a sick-room. It is excellent for hospitals and public buildings; only, in large spaces, the quantity used should be divided and evaporated in different parts of the room. It is sufficient to use it once a day.

Hygienists are indebted to a French scientist, M. Leyrusson, for this ingenious, cheap, and simple method of disinfecting sick-rooms, without danger or even annoyance to the inmates. It has been very recently published in France.

The Best Deodorizer.—Use bromo-chloralum in the proportion of one to eight table-spoonfuls of soft water; dip cloths in this solution and hang in the rooms; it will purify sick-rooms of any foul smells. The surface of anything may be purified by washing well and then rubbing over with a weakened solution of bromo-chloralum. A weak solution is excellent to rinse the mouth with often, when from any

cause the breath is offensive. It is also an excellent wash for sores and wounds that have an offensive odor.

Lime-Water.—One of the most useful agents of household economy, if rightly understood, is lime-water. Its mode of preparation is as follows: Put a stone of fresh unslacked lime about the size of a half-peck measure into a large stone jar or unpainted pail, and pour over it slowly and carefully (so as not to slacken too rapidly), a tea-kettle full (four gallons), of hot water, and stir thoroughly; let it settle, and then stir again two or three times in twenty-four hours. Then carefully bottle all that can be poured off in a clear and limpid state.

It is often sold by druggists as a remedy for children's summer complaints, a tea-spoonful being a dose in a cup of milk, and when diarrhea is caused by acidity of the stomach, it is an excellent remedy, and when put into milk gives no unpleasant taste, but rather improves the flavor. It may also be put into milk that is to be used for puddings and and pies, to prevent its curdling. A little stirred into cream or milk, after a hot day or night, will prevent its turning when used for tea or coffee.

It is unequalled in cleansing bottles or small milk-vessels, or babies' nursing bottles, as it sweetens and purifies without leaving an unpleasant odor or flavor. A cupful, or even more, mixed in the sponge of bread or cakes made over night, will prevent souring.



Hints on Home Decoration.

Preserving Autumn Leaves.—These may be easily preserved and retain their natural tints, or nearly so, by either of the following methods:—

As they are gathered they may be laid between the leaves of a magazine or large book until it is full, and left with a light weight upon them until the moisture in the leaves has been absorbed. Two or three thicknesses of paper should intervene between the leaves. If they are large or in clusters, take newspapers, lay them on a shelf, and use them as with a book.

When the leaves have become perfectly dry, dip them in melted white wax into which you have put a few drops of turpentine, and lay them on clean papers to dry; this will make the leaves pliable and natural, and give them sufficient gloss. Great care should be used to make the wax just hot enough, the temperature being ascertained by the first leaf dipped in. Draw it gently out of the wax and hold it up,—if the wax is too hot, the leaf will shrivel; if too cool, the wax will adhere in lumps. Leaves preserved in this way make chaste and attractive ornaments, if grouped in graceful figures.

Skeletonizing Leaves.—For the leaves, maple ones and those that have a pretty shape are the best: To one pound of soda-ash add two quarts of soft water. After it is all dissolved by boiling, add as many leaves as your dish will hold; lay them in flat, boil until the epidermis will come off easily. Try a leaf in cold water, and if only the veins remain they are done sufficiently. Clean them with an old

tooth-brush, and supply the missing stems with fine wire. After they are well cleaned put them in a solution of chloride of lime to bleach, ten cents' worth of lime is enough for leaves and ferns too. Gather the young ferns and put them in the solution of lime you have for your leaves, not the soda-ash, only the bleaching solution. Float them on stiff paper and put them in books to dry, after washing thoroughly in clear water to prevent them from turning yellow. Poppy-heads are very fine, also Molven balm fixed in this way is lovely for winter bouquets. Add more water to the leaves as it boils away.

For Crystallizing Grass.—Ladies who admire beautiful bouquets of grasses, will appreciate the following recipe:—

Take one and one-half pounds of rock alum, pour on three pints of boiling water; when quite cool put into a wide-mouthed vessel, hang in your grasses, a few at a time. Do not let them get too heavy, or the stems will not support them. You may again heat alum and add more grasses. By adding a little coloring matter it will give pleasing variety.

To Imitate Ground-Glass Windows.—Put a piece of putty weighing about six ounces into a muslin bag so as to form a smooth surface. After thoroughly cleaning the glass, pat it all over with the bag of putty, which being forced out through the muslin, will cover the glass. Let this dry hard, and varnish with shellac or white varnish. If still more time and pains are taken, the glass can be made to represent ground glass almost perfectly. Cut from stiff paper any graceful geometric or other pattern, paste it on the glass, and go over the part not covered by the pattern, as above. After the putty is dry, remove the

pattern and paste with water. This plan is especially adapted to glass in doors.

Ebonizing Wood.—The following is a recipe used by furniture manufacturers for the now popular style of ebonized wood: Logwood chips 8 oz., water q. s., copperas $\frac{1}{2}$ oz. Boil the logwood in one gallon of water for half an hour, and add the copperas. Apply to the wood hot, giving two or three coats. In varnishing ebonized wood, a little drop black must be added, or the varnish will give a brown shade.

Toilet Recipes.

The publishers have been at no small expense in securing recipes for this work, and can assure their patrons that they have all been tested by experience.

The toilet recipes have been furnished by a druggist of long standing, many of the formulas not having been given the public before.

THE HAIR.

Hair Gloss.—Glycerine 6 oz., cologne 2 oz. Mix and use to moisten the hair.

Hair Oil.—Castor oil 6 oz., cologne spirits or alcohol 2 oz. Perfume with bergamont or other desirable perfume.

Hair Wash for Cleaning the Scalp.—Salts of Tartar $\frac{1}{4}$ oz., alcohol $\frac{1}{8}$ of a pt., rain-water 1 pt., rose-water $\frac{1}{2}$ pt. Mix and dissolve. If a profuse lather is desired, add more tartar.

Hair Lotion, To Prevent Hair from Falling Out.—Rose-water 15 oz., glycerine 1 oz., aqua ammonia 1 dr., tincture of cantharides 2 dr. Mix, and use once a week.

To Clean Hair-Brushes.—Use spirits of ammonia and hot water; wash them well and shake the water out, and they will be white and clean. Use no soap.

To Beautify the Hair.—2 oz. of olive oil, 4 oz. of good bay-rum, and 1 dr. of the oil of almonds. Mix and shake well. It renders the hair dark and smooth.

THE TEETH.

To Beautify the Teeth.—Dissolve 2 oz. of borax in three pints of boiling water, and before it is cold add one tea-spoonful of spirits of camphor; bottle it for use. Use a tea-spoonful of this with an equal quantity of tepid water.

Tooth Powder.—Precipitated chalk 4 oz., orris root 2 oz., rose pink $\frac{1}{2}$ dr., oil of cloves 4 drops, oil winter-green $\frac{1}{4}$ dr. Rub the oils with the powder, sift, and the powder is ready for use. It should be kept in a bottle.

Tooth Wash.—Diluted alcohol $\frac{1}{2}$ pint, borax, honey, gum myrrh, and red saunders, each $\frac{1}{4}$ oz. Preparation.—Rub the honey and borax together in a bowl or mortar, and gradually add the alcohol; add the myrrh and saunders, and allow the whole to stand fourteen days, when it may be filtered or strained. If some cologne is used instead of the alcohol, it will improve the wash.

THE FACE AND HANDS.

Bloom of Roses.—Rose-water 8 oz., carmine, No. 40, 1 dr., aqua ammonia $\frac{1}{2}$ oz. Pulverize the carmine to a fine powder, add the aqua ammonia; and when the powder is entirely dissolved, add the rose-water. This is a very delicate and harmless cosmetic.

Bloom of Youth.—Rose-water 1 pt., oxide of bismuth 4

oz. Powder the bismuth and agitate with the rose-water. This wash can be colored pink by adding a little carmine.

Violet Powder.—Arrow root powdered, or wheat starch, 4 oz., powdered orris root 1 oz., oil of lemon 5 drops, oil of cloves and bergamot, each 4 drops. Stir the oils with the powder until thoroughly mixed.

Aromatic Vinegar for the hands and face.—Acetic acid 8 oz., oil lavender 2 dr., oil rosemary 1 dr., oil cloves 1 dr., camphor gum 1 oz. Dissolve the camphor in the acetic acid and add the oils. After remaining for a few days, strain, and it is ready for use.

Camphor Ice.— $\frac{1}{2}$ oz. each of camphor gum and white wax, spermaceti and sweet oil; melt slowly the hard ingredients, and then add the oil.

Cold Cream.—4 oz. sweet almond oil, 2 oz. rose-water 2 oz. white wax, 2 oz. cocoa butter, 2 oz. spermaceti; put a bowl in a pan of boiling water; cut the spermaceti, white wax, and cocoa butter in small pieces; put them in the bowl, also the oil and rose-water. When melted, stir contents until cold.

For the Hands.— $\frac{1}{2}$ oz. of glycerine with same amount of alcohol. Mix, and add 4 oz. of rose-water. Bottle, and shake well. An excellent remedy for rough or chapped hands.

To Take Stains off the Skin.—For cleaning the hands when stained with chemicals: Put $\frac{1}{4}$ lb. glauber salts, $\frac{1}{4}$ lb. chloride of lime, and 4 oz. of water into a small wide-mouthed bottle, and when required for use pour some of the mixture into a saucer and rub it well over the hands with a brush or coarse towel, and wash them in warm water.

Acacia Sachet.—Exquisite and cheap perfume for the glove box or drawer:—

Cassia buds and orris root, 2 oz. of each, in moderately fine powder. Sew up in a bag of silk.

Pot-Pourri Sachet Powder.—Rose and lavender leaves, 2 oz. each, in coarse powder, coarse powdered orris root 1 oz., cloves, cinnamon, and allspice, each $\frac{1}{4}$ oz. Mix well, and put into bags of fancy colored silk, or into envelopes.

Varnishes.

To Varnish Furniture.—First make the work quite clean; then fill up all knots or blemishes with cement of the same color; see that the brush is clean, and free from loose hairs; then dip the brush in the varnish, stroke it along the wire raised across the top of the varnish pot, and give the work a thin and regular coat; soon after that another, and another, always taking care not to pass the brush twice in the same place; let it stand to dry in a moderately warm place, that the varnish may not chill. When the work has had about six or seven coats, let it get quite hard (which prove by pressing the knuckles on it; if it leaves a mark, it is not hard enough); then with the first three fingers of the hand rub the varnish till it chafes, and proceed over that part of the work intended to be polished, in order to take out all the streaks or partial lumps made by the brush; then give it another coat, and let it stand a day or two to harden.

Varnish for Common Work.—This varnish is intended for protecting surfaces against atmospheric exposure. It has been used for coating wood and iron work with great advantage. Take 3 lbs. of resin and powder it, place it in a tin can, and add $2\frac{1}{2}$ pints of spirits of turpentine, shake well, and let it stand, shaking it occasionally for a day or

two. Then add 5 qts. of boiled oil, shake well together, and allow it to stand in a warm room till clear. The clear portion is decanted and used, or reduced with spirits of turpentine until of the proper consistency.

Table Varnish.—Oil of turpentine 1 lb., beeswax 2 oz., colophony 1 dr. Or, dammar resin 1 lb., spirits of turpentine 2 lbs., camphor 200 grains. Digest the mixture for twenty-four hours. The decanted portion is fit for immediate use.

Turpentine Varnish.—To 1 pt. of spirits of turpentine add 10 oz. clear resin pounded; put it in a tin can on a stove, and let it boil for half an hour. When the resin is all dissolved, let it cool, and it is ready for use.

Varnishes for Furniture.—Shellac $1\frac{1}{2}$ lbs., naphtha 1 gal.; dissolve, and it is ready without filtering.

Another recipe is, shellac 12 oz., copal 3 oz. (or an equivalent of varnish); dissolve in 1 gallon of naphtha.

Common Varnish.—Digest shellac 1 part, with alcohol 7 or 8 parts.

White Furniture Varnish.—White-wax 6 oz., oil of turpentine 1 pint; dissolve by gentle heat, taking care not to set the turpentine on fire. Apply in usual way.

Furniture Polish.—Melt three or four pieces of sandarach, each of the size of a walnut, add 1 pint of boiled oil, and boil together for 1 hour. While cooling add 1 dr. of Venice turpentine, and if too thick a little oil of turpentine also. Apply this all over the furniture, and after some hours rub it off; rub the furniture daily, without applying fresh varnish, except about once in two months. Water does not injure this polish, and any stain or scratch may be again covered, which cannot be done with French polish.

French Polish.—Gum shellac 2 oz., gum arabic $\frac{1}{2}$ oz., gum copal $\frac{1}{2}$ oz. Powder, and sift through a piece of muslin; put them in a closely corked bottle with 2 pts. spirits of wine, in a very warm situation, shaking every day till the gums are dissolved; then strain through muslin and cork for use.

Varnish for Water-proof Goods.—Let a $\frac{1}{4}$ lb. of India-rubber, in small pieces, soften in $\frac{1}{2}$ lb. of oil of turpentine, then add 2 lbs. of boiled oil, and boil for 2 hours over a slow fire. When dissolved, add 6 lbs. of boiled linseed oil, and 1 lb. of litharge, and boil until an even liquid is obtained. Apply warm.

Varnish for Boots and Shoes.—Take a pint of linseed oil, with $\frac{1}{2}$ lb. of mutton suet, the same quantity of bees-wax, and a small piece of resin. Boil all this in a pipkin together, and use it when milk-warm with a hair brush; two applications will make the articles water-proof.

Beautiful Bronze, Applicable to all Metals.—Take 10 parts aniline red (fuchsine), and 5 of aniline purple, and dissolve in 100 parts of 95 per cent alcohol, taking care to help the solution by placing the vessel in a sand or water bath. As soon as the solution is effected, 5 parts of benzoic acid are added, and the whole is boiled from 5 to 10 minutes until the greenish color of the mixture is transformed into a fine light-colored brilliant bronze. Apply with a brush.

Golden Varnish.—Pulverize 1 drachm of saffron and $\frac{1}{2}$ drachm of dragon's blood, and put them into 1 pint spirits of wine. Add 2 oz. of gum shellac and 5 drachms of socotrine aloes. Dissolve the whole by gentle heat. Yellow painted work, varnished with this mixture, will appear almost equal to gold.

Varnish for Iron-work.—Dissolve, in about 2 lbs. of tar oil, $\frac{1}{2}$ lb. of asphaltum, and a like quantity of pounded resin, mix hot in an iron kettle, care being taken to prevent any contact with the flame. When cold, the varnish is ready for use. This varnish is for out-door wood and iron work.

Imitation Nickel Plating.—Coarse rasped granulated zinc is boiled for some time in a mixture of 3 parts by weight of sal ammoniac, and 10 of water, the objects immersed and stirred up with a zinc rod. The deposit is silvery bright, and resists mechanical action as well as a coating of nickel. The process can be recommended for goods which are meant for a second coating of some other metal, since any other is easily deposited on zinc.

Interesting to Nickel Platers.—A simple process of nickel plating by boiling has been described by Dr. Kaiser. A bath of pure granulated tin tartar and water is prepared, and after being heated to the boiling point, has added to it a small quantity of pure red-hot nickel oxide. A portion of the nickel will soon dissolve and give a green color to the liquid over the grains of tin. Articles of copper or brass plunged into this bath acquire in a few minutes a bright metallic coating of almost pure nickel. If a little carbonate or tartrate of cobalt is added to the bath, a bluish shade, either light or dark, may be given to the coating, which becomes very brilliant when it is properly polished with chalk or dry sawdust.

Paint.

After the ground is fairly closed up by frost for the winter, it will be an excellent time to paint the house, barn, and other farm buildings, and all the farm implements and carriages

that need it. Paint spread at this season of the year makes a durable covering, and there are no flies or other insects to spoil its looks after being spread, as during the hot days of summer.

If the carriages and farm implements can be stored in a clean apartment, free from wind and dust, painting may go on uninterruptedly by doing the outside work in fair weather and the carriage work during rainy days.

Repainting Carriages.—Previous to repainting or revarnishing any old coach-work, it is necessary first to wash the work quite clean, and also to rub down the surface with a wet cloth and ground pumice powder, until it appears quite dead, or without gloss. The work should then be washed, and dried with a wash-leather; after which it is fit to receive either paint or varnish. Old work is frequently dirty, greasy, and strongly impregnated with various exhalations, very injurious to paint-work and varnish, from its being kept shut up in cold, damp coach-houses, which have often doors or passages communicating with stables, latrines, and so on. If therefore it be repainted or revarnished, without having been well washed and rubbed down, it seldom or never dries properly, owing to the exhalations with which the surface is in general incrustated; and should the surface be even clear from grease, no paint or varnish will adhere, or can be well applied, on the old glossy surface, without its having been first rubbed down with the pumice powder and water, as that entirely removes all stains, grease, and gloss from the surface. Paint or varnish will then adhere to the old ground, and can be easily worked and extended with the brush, without the color *cissing*, as it is termed. Varnish is very apt to *ciss* on old work, if the second coat is not

applied as soon as the first coat is hard enough to bear varnishing.

Economical Paint.—Skim-milk 2 qts., fresh-slacked lime 8 oz., linseed oil 6 oz., white Burgundy pitch 2 oz., Spanish white 3 lbs. The lime to be slaked in water exposed to the air, mixed in one-fourth of the milk; the oil in which the pitch is previously dissolved, to be added a little at a time; then the rest of the milk, and afterward the Spanish white. This quantity is sufficient for 27 sq. yds., two coats.

To Remove Old Paint.—Wet the place with naphtha, repeating as often as is required; but frequently one application will dissolve the paint. As soon as it is softened, rub the surface clean. Chloroform, mixed with a small quantity of spirit ammonia, composed of strong ammoniac, has been employed very successfully to remove the stains of dry paint from wood, silk, and other substances.

To Destroy Paint.—Mix 1 part by weight of potash with 3 parts quick-lime, by slaking the lime in water and then adding the potash, making the mixture about the consistency of paint. Lay the above over the whole of the work required to be cleaned, with an old brush; let it remain 14 or 16 hours, when the paint can be easily scraped off.

Fire-proofing Shingle Roofs.—A wash composed of lime, salt, and fine sand or wood-ashes, put on in the ordinary way of whitewash, renders a shingle roof fifty-fold more safe against fire from falling cinders, in case of fire in the vicinity. It has also a preserving influence against the effect of the weather; the older and more weather-beaten the shingles, the more benefit derived. Such shingles are gen-

erally more or less warped, rough, and cracked. The application of wash, by washing the upper surface, restores them to their original or firm form, thereby closing the space between the shingles; and the lime and sand, by filling up the cracks, prevent its warping. By the addition of a small quantity of lamp-black, the wash may be made of the same color as old shingles, and thus the offensive glare of a white-washed roof is removed.

Paint for Blackboards in Schools.—Common glue 4 oz., flour of emery 3 oz., and just lamp-black enough to give an inky color to the preparation. Dissolve the glue in $\frac{3}{4}$ qt. of warm water, put in the lamp-black and emery, stir till there are no lumps, then apply to the board with a woolen rag smoothly rolled. Three coats are amply sufficient.

Compound, Fire-proof Iron Paint.—Finely pulverized iron fillings 1 part, brick-dust 1 part, and ashes 1 part. Pour over them glue-water or size, set the whole near the fire, and when warm, stir them well together. With this paint cover all the wood-work which may be in danger; when dry, give a second coat, and the wood will be rendered incombustible.

Remedy for Damp Walls.— $\frac{3}{4}$ lb. of mottled soap to 1 gal. of water. This composition to be laid over the brick-work steadily and carefully with a large flat brush, so as not to form a froth or lather on the surface. The wash should remain 24 hours, to become dry. Mix $\frac{1}{2}$ lb. of alum with 4 gals. of water, leave it to stand for 24 hours, and then apply it in the same manner over the coating of soap. Let this be done in dry weather.

Darkening Glass.—The following, if neatly done, renders the glass obscure yet diaphanous: Rub up, as for oil-

colors, a sufficient quantity of sugar of lead with a little boiled linseed oil, and distribute this uniformly over the pane, from the end of a hog-hair tool, by a dabbing, jerking motion, until the appearance of ground glass is obtained. It may be ornamented, when perfectly hard, by delineating the pattern with a strong solution of caustic potash, giving it such time to act as experience dictates, and then expeditiously wiping out the portion it is necessary to remove.

To Prevent Iron Rusting.—Give it a coat of linseed oil and whiting, mixed together in the form of a paste. It is easily removed and will preserve iron from rusting for years.

Staining Woods.

There is little trouble in preparing the stain, and its application differs but slightly from painting.

Directions for Staining.—In preparing any of the tinctures, it is of importance to powder or mash all the dry stuffs previous to dissolving or macerating them, and to purify all the liquids by filtration before use. It will be better for inexperienced hands to coat twice or three times with a weak stain than only once with a very strong one, as by adopting the first mode a particular tint may be gradually effected, whereas, by pursuing the latter course, an irremediable discolorization may be the result. Coarse pieces of carving, spongy end, and cross-grained woods, should be previously prepared for the reception of stain; this is best done by putting on a thin layer of varnish, letting it dry, and then sand-papering it completely off again. Fine work merely requires to be oiled and slightly

rubbed with the finest sand-paper. Thus prepared, the woody fiber is enabled to take on the stain more regularly, and to attain a high degree of smoothness. Stains may be applied with a good brush or with a woolen rag or sponge.

To Stain Walnut.—Use burnt umber and linseed oil, apply with a brush, and when dry sand-paper again and apply more stain. When the desired stain is made, varnish. A quick stain may be made by using water or thin glue instead of oil. This stain is not durable.

Another.—Water 1 qt., washing soda $1\frac{1}{2}$ oz., Vandyke brown $2\frac{1}{2}$ oz., bichromate of potash $\frac{1}{4}$ oz. Boil for 10 minutes, and apply with a brush, in either a hot or cold stain.

Black Stain.—Boil 1 lb. of logwood in 4 qts. of water, add a double handful of walnut peel or shells; boil it up again, take out the chips, add a pint of the best vinegar, and it will be fit for use; apply it boiling. This will be improved, if, when dry, a solution of green copperas, an ounce to a quart of water, is applied hot over the first stain.

Black Stains for Immediate Use.—Boil $\frac{1}{2}$ lb. of chip logwood in 2 qts. of water, add 1 oz. of pearlash, and apply it hot to the work with a brush. Then take $\frac{1}{2}$ lb. of logwood, boil it as before in 2 qts. of water, and add $\frac{1}{2}$ oz. of verdigris and $\frac{1}{2}$ oz. of copperas; strain it off, put in $\frac{1}{2}$ lb. of rusty steel filings; with this go over the work a second time.

Ebony Stains.—Stain work with the black stain, adding powdered nutgall to the logwood and copperas solution, dry, rub down well, oil, then use French polish made tolerably dark with indigo, or finely-powdered stone-blue.

Cherry Stain.—Soft water 3 qts., annotto 4 oz.; boil in a copper kettle till the annotto is dissolved, put in a piece of potash the size of a walnut; simmer over the fire about half an hour longer, and it is ready to bottle for use.

Cleaning and Scouring.

To Clean Pearls.—Soak them in hot water in which bran has been boiled, with a little salts of tartar and alum, rubbing gently between the hands, when the heat will admit of it; when the water is cold, renew the application till any discoloration is removed; rinse in warm water. Lay them on white paper in a dark place to cool.

To Clean Marble, Etc.—Mix up a quantity of the strongest soap-lees with quick-lime, to the consistency of milk, and lay it on the stone for twenty-four hours. Clean it, and it will appear as new. This may be improved by rubbing afterward with fine putty powder on olive-oil.

To Clean Oil-Paintings.—Wash with a sponge or a soft leather and water, and dry with a silk handkerchief. When the picture is very dirty, take it out of its frame, procure a clean towel, and making it quite wet, lay it on the face of the picture, sprinkling it from time to time with clear, soft water. Let it remain wet for two or three days. Take the cloth off and renew it with a fresh one. After wiping the picture with a clean wet sponge, repeat the process till all the dirt is soaked out; then wash it well with a soft sponge, let it become quite dry, and rub it with some clear nut or linseed oil. Spirits of wine and turpentine may be used to dissolve the hard old varnish, but they will attack the paint as well as the varnish if the further action of the spirits is not stopped at the proper time by using water freely.

To Clean Plate.—Take an ounce each of cream of tartar, muriate of soda, and alum, and boil in a gallon or more of water. After the plate is taken out and rubbed

dry, it puts on a beautiful silvery whiteness. Powdered magnesia may be used dry for articles slightly tarnished, but if very dirty it must be used first wet and then dry.

To Clean Brass or Copper.—Take 1 oz. of oxalic acid, 6 oz. rotten-stone, $\frac{1}{2}$ oz. gum arabic, all in powder, 1 oz. sweet oil, and sufficient water to make a paste. Apply a small portion, and rub dry with a flannel or leather.

Silver Plate.—Mix together 8 oz. prepared chalk, 2 oz. turpentine, 1 oz. alcohol, 4 dr. spirits of camphor, and 2 dr. liquor of ammonia. Apply this mixture to the article with a sponge, and allow to dry before polishing.

Silver Cleaning Liquid.—Prepared chalk 8 oz., turpentine 2 oz., alcohol 1 oz., spirits of camphor 4 dr., liquor of ammonia 2 dr. Apply with a sponge, and allow to dry before polishing. Or use a solution of cyanide of potassium, 12 oz. cyanide to 1 qt. water; immerse the silver, brush it with a stiff brush until clean, wash and dry.

Cleaning Hats.—The stains of grease and paint may be removed from fur hats by means of turpentine; and if the turpentine leaves a mark, finish with a little spirits of wine.

Cleaning Jewelry.—Common jewelry may be effectually cleaned by washing with soap and warm water, rinsing in cold water, dipping in spirits of any kind, and drying in warm boxwood sawdust. Good jewelry only needs washing with soap and water, and polishing with rouge and a chamois leather.

Cleaning Engravings.—Put the engraving on a smooth board, cover it thinly with common salt, finely pounded; squeeze lemon-juice upon the salt so as to dissolve a considerable portion of it; elevate one end of the board, so that it may form an angle of about 45° or 50° with the horizon.

Pour on the engraving boiling water from a tea-kettle, until the salt and lemon-juice are all washed off; the engraving will then be perfectly clean, and free from stains. It must be dried on the board, or on some smooth surface, gradually. If dried by the fire or the sun, it will be tinged with a yellow color.

Polishing Wood Carving.—Take a piece of wadding, soft and pliable, and on it drop a few drops of white or transparent polish or French polish, according to the color of the wood. Wrap the wetted wadding up in a piece of old linen, forming it into a pad; and hold it by the surplus linen; then touch with one or two drops of linseed oil. Pass the pad gently over the parts to be polished, working it round in small circles, occasionally re-wetting the wadding in polish, and the pad with a drop or so of oil. The object of the oil is merely to cause the pad to run over the wood easily without sticking, therefore as little as possible should be used, as it tends to deaden the polish to a certain extent.

Where a carving is to be polished after having been varnished, the same process is necessary, but it can only be applied to the plainer portions of the work. Plane surfaces must be made perfectly smooth with glass paper before polishing, as every scratch or mark will show twice as much after the operation. When the polish is first rubbed on the wood, it is called the *bodying in*; it will sink into the wood and not give much glaze. It must, when dry, have another body rubbed on, and a third generally finishes it; but if not, the operation must be repeated. Just before the task is completed, greasy smears will show themselves; these will disappear by continuing the gentle rubbing without oiling the pad.

Polishing Mother-of-Pearl.—Go over it with pumice-stone finely powdered and washed to separate the impurities and dirt, with which polish it very smooth; then apply putty powder and water by a rubber, which will produce a fine gloss and good color.

Floors.—Take some clean, sifted, white or silver sand, and scatter it on the floor. Dissolve one pound of American potash or pearlash, in one pint of water, and sprinkle the sand with this solution. Have a pail of very hot water, and scrub the boards lengthwise with a hard brush, using the mottled soap. Change the water frequently. This is the best way to scour and whiten boards. The potash, if applied as directed, will take out all stains.

Ink stains may be removed from boards by using either strong vinegar or salts of lemon.

Cleaning House Paint.—Old paint-work should be first well dusted, then cleaned by washing with a ley of pearlash and water; it is sometimes necessary, after the washing, to give a coat of weak size, and as soon as it is dry, apply varnish, using copal for light work, and carriage for dark. Some handrails, doors, and so on, are so saturated with grease, that no washing will remove it. When this is the case, brush the foul parts over with strong fresh-made lime-wash, let that dry, then rub it off; if the grease is not removed, repeat the lime-washing, until the grease is thoroughly drawn out; wash the lime off clean, and afterward apply the sizing, and lastly the varnish.

To Wash Silver Ware.—Never use a particle of soap on your silver ware, as it dulls the luster, giving the article more the appearance of pewter than silver. When it wants cleaning, rub it with a piece of soft leather and prepared

chalk, the latter made into a kind of paste with pure water, for the reason that water not pure might contain gritty particles.

Cleaning Gilt Frames.—Gilt frames may be cleaned by simply washing them with a small sponge, wet with urine, hot spirits of wine, or oil of turpentine, not too wet, but sufficiently to take off the dirt and fly marks. They should not be afterward wiped, but left to dry of themselves.

Scouring Articles of Dress.—Among the spots which alter the color fixed upon stuffs, some are caused by a substance which may be described as simple, and others by a substance which results from the combination of two or more bodies, that may act separately or together upon the stuff, and which may therefore be called compound.

Cleaning Fabrics.

Oils and fats are the substances which form the greater part of simple stains. They give a deep shade to the ground of the cloth; they continue to spread for several days; they attract the dust, and retain it so strongly that it is not removable by the brush; and they eventually render the stain lighter colored, upon a dark ground, and of a disagreeable gray tint upon a pale or light ground.

The general principle of cleansing all spots consists in applying to them a substance with a stronger affinity for the matter composing them than this has for the cloth, and which shall render them soluble in some liquid menstruum, such as water, spirits, naphtha, or oil of turpentine. Alkalies are the most powerful solvents of grease; but they act too

strongly upon silk and wool, as well as change too powerfully the colors of dyed stuffs, to be safely applicable in removing stains. The best substances for this purpose are: 1. Soap. 2. Chalk, fuller's-earth, soap-stone, or French chalk. These should be mixed with a little water, made into a thin paste, spread upon the stain, and allowed to dry. The spot requires now to be merely brushed. 3. The volatile oil of turpentine will take out only recent stains; for which purpose it ought to be previously purified by distillation over quick-lime. Wax, resin, turpentine, pitch, and all resinous bodies in general, form stains of greater or less adhesion, which may be dissolved out by pure alcohol. 4. Oxalic acid removes iron rust almost instantly.

A stain of *iron rust* and *grease* requires two distinct operations, one to remove the grease and the other the rust, which can be done as indicated in preceding directions.

Recent Ink Stains—may be removed by washing in pure water, then in soapy water, and lastly with lemon-juice; but if the stain be old, use oxalic acid, which may be applied in powder, well rubbed on, and washed off with pure water.

Ox-gall and yolk of egg have the property of dissolving fatty bodies without perceptibly affecting the texture or colors of cloth, and may therefore be employed with advantage. The ox-gall should be purified, to prevent its greenish tint from degrading the brilliancy of dyed stuffs, or the purity of whites. Thus prepared it is the most precious of all substances known for removing these kinds of stains.

Grease from Cloth.—Grease can be removed from cloth by a paste of fuller's-earth and turpentine. This should be rubbed on the fabric until the turpentine has evaporated and

a white powder produced. The latter can be brushed off, and the grease will have disappeared.

Another.—Benzine, alcohol, ether, equal parts; mix, apply with a sponge (patting the spot), put a piece of blotting paper on each side and iron with a hot flat-iron. The ingredients are very inflammable; use great care not to take them too near a fire.

To Destroy the Effects of Acid on Clothes.—Dampen as soon as possible, after exposure to the acid, with spirits of ammonia. It will destroy the effect immediately.

Fruit Stains.—First rub the spot on each side with hard soap, and then lay on a thick mixture of starch and cold water. Rub this mixture of starch well into the spot, and afterward expose it to the sun and air. If the stain has not disappeared at the end of three or four days, repeat the process.

Grease Spots.—Dissolve one ounce of pearlash in one pint of water, and to this solution add a lemon cut into thin slices. Mix well, and keep the mixture in a warm state for two days, then strain and bottle the clear liquid for use. A small quantity of this mixture poured on stains occasioned by either grease, oil, or pitch, will speedily remove them. Afterward wash in clear water.

Ink Stains.—Strain the linen tightly over a basin containing boiling water, and wet the stain with water. Then carefully let fall on the spot a few drops of salts of lemon, or diluted spirits of salt; use for this purpose a feather, or small camel's-hair pencil. When the stain has been removed, wash carefully in cold water.

Iron-mold stains may also be removed by this method.

To Wash Lace.—Cover an ordinary wine bottle with

fine flannel, stitching it firmly round the bottle. Tack one end of the lace to the flannel, then roll it very smoothly round the bottle, and tack down the other end, then cover with a piece of very fine flannel or muslin. Now rub it gently with a strong soap liquor, and if the lace is very much discolored or dirty, fill the bottle with hot water, and place it in a kettle or saucepan of suds and boil it for a few minutes, then place the bottle under a tap of running water to rinse out the soap. Make some strong starch, and melt in it a piece of white wax and a little loaf sugar. Plunge the bottle two or three times into this and squeeze out the superfluous starch with the hands; then dip the bottle in cold water, remove the outer covering from the lace, fill the bottle with hot water, and stand it in the sun to dry the lace. When nearly dry take it very carefully off the bottle, and pick it out with the fingers. Then lay it in a cool place to dry thoroughly.

Reviving Furs.—Thoroughly sprinkle every part with hot flour and sand, and brush well with a hard brush. Then beat with a cane, comb it smooth with a wet comb, and press carefully with a warm iron. For ermine use plaster-of-Paris instead of flour and sand, and treat in the same way.

To Renovate Silk.—Potato-water is good to clean all colors and kinds; grate the potatoes into cold spring water, say a large potato to every quart of water, of which five or six will do for a couple of dresses. If for very light silk, pare the potatoes; if for dark, merely wash them clean. The pan of water must not be stirred in the least for forty-eight hours; then, very slowly and steadily pour off the clear liquor, but not a particle of the sediment, into a large open vessel, dip the pieces of silk into this liquid up and down a

few times, without creasing them; then wipe them on a flat table with a clean towel, first one side, then the other. It is as well to hang each one as dipped upon a line to allow the drops to drain off a little before wiping. Have a damp cloth to cover them in till all is done; then iron one way, on the soiled side.

To Wash Feathers.—Dissolve four ounces of white soap in two quarts of boiling water; put it into a large basin or small pan, and beat to a strong lather with a wire egg-beater or a small bundle of birch twigs; use while warm. Hold the feather by the quill with the left hand, dip it into the soap liquor and squeeze it through the right hand, using a moderate degree of pressure. Continue this operation until the feather is perfectly clean and white, using a second lot of soap liquor if necessary. Rinse in clean hot water to take out the soap, and afterward in cold water in which a small quantity of blue has been dissolved. Shake well, and dry before a moderate fire, shaking it occasionally that it may look full and soft when dried. Before it is quite dry curl each fibre separately with a blunt knife or ivory paper-folder.

To Wash Carpets.—Spread the carpet where you can use a brush, take Irish potatoes and scrape them into a pail or tub of water and let them stand over night, using one peck to clean a large carpet; two pails of water is sufficient to let them stand in, and you can add more when ready to use; add two ounces of beef gall and use with a brush, as to scrub a floor; the particles of potato will help cleanse, and when dry, brush with a broom or stiff brush.

Excellent Family Soap.—1 box concentrated lye, 5 lbs. grease, 1 lb. resin, $1\frac{1}{2}$ gals. soft water; make in an

iron pot. When the water boils, put in the lye; when this is dissolved, add the grease; stir till all is melted, then add one pound of resin gradually, and boil for an hour and a half; keep stirring with a stick, and add hot water to keep up the original quantity, pour into wet tin pans, and let it stand for twenty-four hours. Cut into bars, and keep in a dry, warm place for a month.

Washing Fluid.—9 table-spoonfuls unslacked lime, 2 lbs. sal-soda, 4 qts. water; let this simmer half an hour, then bottle up. Take a small tea-cupful to a boiler of water.

Another.—1 lb. sal-soda, 1 lb. potash, each dissolved in 1 gal. water (separately); mix together and bottle.

Cheap Filter.—Take a common flower-pot as large as possible, plug the hole in the bottom with a piece of sponge, then put a layer of powdered charcoal about an inch thick, the same of clean sand, and a layer of small stones and coarse gravel about two inches thick. Set the pot where the water can drop off the sponge, and pour in water gently. In a few minutes the water will find its way through the sand and charcoal and drop into the vessel placed below, clear and free from impurities.

Cements.

How to Use Cements.—Take as small a quantity of the cement as possible, and bring the cement itself into intimate contact with the surfaces to be united. If glue is employed, the surface should be made so warm that the melted glue is not chilled before it has time to effect a thorough adhesion. Cements that are used in a fused state, as resin or shellac, will not adhere unless the parts to be joined are heated to

the fusing point of the cement. Sealing-wax, or ordinary electrical cement, is a good agent for uniting metal to glass or stone, provided the masses to be united are made so hot as to fuse the cement, but if the cement is applied to them while they are cold it will not stick at all. This fact is well known to the itinerant vendors of cement for uniting earthenware. By heating two pieces of china or earthenware so that they will fuse shellac, they are able to smear them with a little of this gum, and join the pieces so that they will rather break at any other part than along the line of union.

But although people constantly see the operation performed, and buy liberally of the cement, it will be found in nine cases out of ten that the cement proves worthless in the hands of the purchasers, simply because they do not know how to use it. They are afraid to heat a delicate glass or porcelain vessel to a sufficient degree, or they are apt to use too much of the material, and the result is a failure.

Cement for Ivory or Mother-of-Pearl.—Dissolve 1 part of isinglass and 2 of white glue in 30 parts of water, strain and evaporate to 6 parts, add one-thirtieth part of gum mastic, dissolved in one-half part of alcohol, add 1 part of white zinc. When required to use, warm and shake up.

Cement for Jet.—Shellac is generally used for jet articles. The broken edges should be heated before applying the shellac. Should the joint be in sight, it will be rendered the same color as the jet itself by smoking the shellac before applying it.

Cheap India-Rubber Cement.—Cut virgin or native India-rubber with a wet knife into the thinnest possible slices, and with shears divide these into threads as fine as fine yarn. Put a small quantity of the shreds, (say one-tenth

or less of the capacity of the bottle), into a wide-mouthed bottle, and fill it three-quarters full with benzine of good quality perfectly free from oil. The rubber will swell up almost immediately, and in a few days, especially if often shaken, assume the consistency of honey. If it inclines to remain in undissolved masses, more benzine must be added, but if too thin and watery it needs more rubber. A piece of solid rubber the size of a walnut will make a pint of cement. It dries in a few minutes, and by using three coats in the usual manner, will unite leather straps, patches, rubber soles, backs of books, etc., with exceeding firmness.

Cement for Petroleum Lamps.—Boil 3 parts of resin with 1 part of caustic soda and 5 of water. The composition is then mixed with half its weight of plaster-of-Paris, and sets firmly in one-half to three-fourths of an hour. It is of great adhesive power, not permeable to petroleum, a slow conductor of heat, and but superficially attacked by hot water.

Cement to Mend Iron Pots and Pans.—Take 2 parts of sulphur, and 1 part, by weight, of fine black-lead, put the sulphur in an old iron pan, holding it over the fire until it begins to melt; then add the lead, stir well until all is mixed and melted, then pour out on an iron plate, or smooth stone. When cool, break into small pieces. A sufficient quantity of this compound being placed upon the crack of the iron pot to be mended, can be soldered by a hot iron in the same way a tinsmith solders his sheets. If there is a small hole in the pot, drive a copper rivet into it and then solder over it with this cement.

London Cement.—Boil a piece of old cheese three times in water, each time allowing the water to evaporate. Take

the paste thus left and thoroughly incorporate with dry quick-lime. It will mend glass, wood, china, etc., very effectually.

Cement for Wood Vessels Required to be Water-Tight.—Take lime-clay and oxide of iron, separately calcined and reduced to fine powder, then intimately mixed, kept in a close vessel, and mixed with the requisite quantity of water when used.

Cement for Leather.—A good cement for splicing leather for straps is gutta-percha dissolved in bisulphide of carbon, until it is of the thickness of molasses; the parts to be cemented must first be well thinned down, then pour a small quantity of the cement on both ends, spreading it well so as to fill the pores of the leather, warm the parts over a fire for about half a minute, apply them quickly together and hammer well. The bottle containing the cement should be tightly corked and kept in a cool place.

Marble Cement.—Take plaster-of-Paris and soak it in a saturated solution of alum, then bake in an oven, the same as gypsum is baked to make it plaster-of-Paris; after which grind the mixture to powder. It is then used as wanted, being mixed up with water like plaster and applied. It sets into a very hard composition capable of taking a very high polish, and may be mixed with various coloring minerals to produce a cement of any color capable of imitating marble. This cement is also used for attaching glass to metal.

Chinese Cement.—Finest pale orange shellac, broken small, 4 oz., rectified spirit, the strongest, 3 oz., digest together in a corked bottle in a warm place until dissolved; it should have the consistency of molasses. It is used for wood, glass, ivory, jewelry, and all fancy works.

Cements for Cracks in Wood.—Make a paste of slacked lime 1 part, rye meal 2 parts, with a sufficient quantity of linseed oil. Or, dissolve 1 part of glue in 16 parts of water, and when almost cool, stir in sawdust and prepared chalk a sufficient quantity. Or, oil-varnish thickened with a mixture of equal parts of white-lead, red-lead, litharge, and chalk.

To Mend China.—Take a very thick solution of gum arabic in water, and stir into it plaster-of-Paris until the mixture becomes of a proper consistency. Apply it with a brush to the fractured edges of the china, and stick them together. In three days the articles cannot be broken in the same place. The whiteness of the cement renders it doubly valuable.

Stone-Mason's Cement.—Clean river sand 20 lbs., litharge 2 lbs., quick-lime 1 lb., linseed oil, sufficient to form a thin paste. This cement is used to mend broken pieces of stone, and after a time it becomes exceedingly hard and strong. A similar composition has been used to coat brick walls, under the name of mastic.

Fire-Proof and Water-Proof Cement.—To 4 or 5 parts of clay, thoroughly dried and pulverized, add 2 parts of fine iron filings free from oxide, 1 part of peroxide of manganese, $\frac{1}{2}$ part of sea salt, and $\frac{1}{2}$ part of borax. Mingle these thoroughly and render them as fine as possible, then reduce them to a thick paste with the necessary quantity of water. It must be used immediately. After application, it should be exposed to heat, gradually increasing almost to a white heat. This cement is very hard, and presents complete resistance alike to a red heat and boiling water.

Another Method.—To equal parts of sifted peroxide of

manganese and well-pulverized zinc white, add a sufficient quantity of commercial soluble glass to form a thin paste. This mixture, when used immediately, forms a cement quite equal in hardness and resistance to that obtained by the first method.

Armenian, or Jeweler's Cement.—Dissolve 5 or 6 bits of gum mastic, the size of a large pea, in as much spirits of wine as will suffice to render it liquid; in a separate vessel dissolve as much isinglass (previously softened in water, though none of the water must be used) in rum, or other spirit, as will make a 2-oz. phial of very strong glue, adding two small pieces of gum ammoniacum, which must be rubbed or ground till they are dissolved; then mix the whole with a sufficient heat. Keep it in a phial closely stopped, and when it is to be used, set the phial in boiling water. The preceding is also effectual in uniting almost all substances, even glass, to polished steel.

Miscellaneous Recipes.

To Renew Manuscripts.—Take a hair pencil and wash the part that has been effaced with a solution of prussiate of potash and water, and the writing will again appear if the paper has not been destroyed.

Tracing Paper.—1. Wash very thin paper with the following mixture: Spirits turpentine, 6 parts, by weight, resin 1 part, boiled nut oil 1 part. Apply with a soft sponge.

2. Brush over one side of a good, thin, unsized paper with a varnish made of equal parts of Canada balsam and turpentine. If required to take water-color, it must be washed over with ox-gall and dried before being used.

3. Open a quire of double-crown tissue paper, and brush the first sheet with a mixture of mastic varnish and oil of turpentine, equal parts; proceed with each sheet similarly, and dry them on lines by hanging them up singly. As the process goes on, the under sheets absorb a portion of the varnish, and require less than if single sheets were brushed separately.

Transfer Paper.—is made by rubbing white paper with a composition consisting of 2 oz. tallow, $\frac{1}{2}$ oz. powdered black-lead, $\frac{1}{4}$ pint linseed oil, and sufficient lamp-black to make it of the consistency of cream. These should be melted together and rubbed on the paper while hot. When dry it will be fit for use.

Alloy for Journal Boxes.—Copper 3 lbs., tin 3 lbs., and antimony 1 lb. Melt the copper first, then add the tin, and lastly the antimony. It should be first run into ingots, then melted and cast in the form required for the boxes.

Amber, to Mend.—Smear the parts which are to be united with linseed oil, hold the oiled part carefully over a small charcoal fire, a hot cinder, or a gas-light, being careful to cover up all the rest of the object loosely with paper; when the oiled parts have begun to feel the heat, so as to be sticky, pinch or press them together, and hold them so till nearly cold. Only that part where the edges are to be united must be warmed, and even that with care, lest the form or polish of the other parts should be disturbed; the part joined generally requires a little re-polishing.

Bronzing Wood.—The wood is first covered with a uniform coating of glue, or of drying oil, and when nearly dry the bronze powder, contained in a small bag, is dusted over it. The surface of the object is afterward rubbed with a

piece of moist rag, or the bronze powder may be previously mixed with the drying oil, and applied with a brush. The bronze powder can be procured at almost any drug store, and at some paint stores.

To Print a Picture from the Print Itself.—The page or picture is soaked in a solution, first of potassa, and then of tartaric acid. This produces a perfect diffusion of crystals of bitartarate of potassa through the texture of the unprinted part of the paper. As this salt resists oil, the ink roller may now be passed over the surface, without transferring any part of its contents except to the printed part.

Hints about Screws.—Where screws are driven into soft wood and subjected to considerable strain, they are very likely to work loose, and it is often difficult to make them hold. In such cases the use of glue is profitable. Prepare the glue thick, immerse a stick about half the size of the screw and put it into the hole, then immerse the screw, and drive it home as quickly as possible. When there is an article of furniture to be hastily repaired, and no glue is at hand, bore a hole, insert the stick, fill the rest of the cavity with pulverized resin, then heat the screw sufficiently to melt the resin as it is driven in. Where screws are driven into wood for temporary purposes, they can be more easily removed by dipping them in oil before inserting. When buying screws, notice that the heads are sound and well cut, that there are no flaws in the body or thread part, and that they have gimlet points. A screw of good make will drive into oak as easily as others into pine, and will endure having twice the force brought against it.

To Make Putty.—Mix a quantity of whiting into a very stiff paste with linseed oil, rubbing and beating it well before

using. For particular purposes, as for fanlights, iron-framed green-houses, and other places where the lap or hold is very narrow, a little white-lead may be added to advantage. Colored putty has a mixture of red ochre, lamp-black, or other color with the whiting.

To Make Sealing-Wax.—Red. Take 1 lb. of yellow resin, $5\frac{1}{2}$ oz. of gum lac, $5\frac{1}{2}$ oz. of Venice turpentine, and 1 oz. of vermilion. Melt the lac in a copper pan suspended over a clear fire, add the resin, pour the turpentine slowly in, and soon afterward add the vermilion, stirring the mixture all the time. Form either into round sticks by rolling it out on a smooth stone slab by means of a wooden board, or into oval sticks by casting it into stone molds made in two pieces.

Black sealing-wax is made by substituting either lamp-black or ivory-black in the above recipe.

Cleaning Harness, or Saddles and Bridles.—If harness, wash it perfectly clean with warm water and soft soap, and when dry, apply neat's-foot oil and black dye, mixed; mix them by adding a small quantity of salts of wormwood, when they will be well blacked and pliable. At the same time, by applying the oil and dye to the bottom or under parts of the straps, and composition to the top, they will always be pliable, and have a good polish on the top. If a riding saddle, wash in cold water and soft soap until free from dirt; then apply soft soap with a woolen cloth—about 2 table-spoonfuls would be enough for a saddle—which will dry in. If the saddle is to have a yellow appearance, infuse a few cents' worth of hay saffron in about four or five table-spoonfuls of water, and apply before the soft soap, then rub on a piece of woolen cloth, or a brush, a piece of bees-wax.

and finish the saddle off with it, rubbing till a good polish is obtained.

Blacking for Harness.—1. Molasses $\frac{1}{2}$ lb., lamb-black 1 oz., yeast a spoonful, sugar-candy, olive oil, gum tragacanth, and isinglass, each 1 oz., and a cow's gall. Mix with 2 pts. of stale beer, and let it stand before the fire for an hour.

2. Molasses 8 parts, lamp-black 1, sweet oil 1, gum arabic 1, isinglass 1, water 32. Apply heat to the whole; when cold, add 1 oz. spirits of wine, and apply with sponge. If it should get hard, place the bottle in warm water a short time.

3. Melt 1 lb. bees-wax, stir in 4 oz. ivory-black, 2 oz. spirits turpentine, 2 oz. Prussian blue, ground in oil, and $\frac{1}{2}$ oz. copal varnish. Make into balls. With a brush apply to harness, and polish with silk gently.

Harness Composition.—Put into a glazed pipkin 2 oz. of black resin, place it on a gentle fire; when melted, add 3 oz. of bees-wax. When this is melted, take it from the fire, add $\frac{1}{2}$ oz. of fine lamp-black, and $\frac{1}{2}$ dr. of Prussian blue in fine powder; stir them so as to be perfectly mixed, and add sufficient spirits of turpentine to form a thin paste, let it cool. To use it, apply a coat with a piece of linen rag pretty evenly all over the harness; then take a soft polishing brush and brush it over, to obtain a bright surface.

To Destroy Bed-Bugs, Moths, and Other Vermin.—Dissolve alum in hot water, making a very strong solution; apply to furniture or crevices in the walls with paint brush. This is sure destruction to those noxious vermin, and invaluable because easily obtained, is perfectly safe to use, and leaves no unpleasant traces behind. When you suspect

moths have lodged in the borders of carpets, wet the edges of the carpets with a strong solution; whenever it reaches them, it is certain death.

Black Ink, Non-Corrosive.—Digest in an open vessel 42 oz. of coarsely-powdered nut-galls, 15 oz. of gum senegal, 18 oz. of sulphate of iron, copperas free from copper, 3 dr. of aqua ammonia, 24 oz. of alcohol, and 18 qts. of distilled or rain-water. Continue the digestion until the fluid has assumed a deep black color. To make less quantity, use less of each ingredient, but in the same proportion. For cheap inks other ingredients may be substituted instead of part of the galls; logwood, catechu, sumac, and oak-bark may be used for the same purpose. Many other substances, such as elm wood, elder, chestnut, beech, willow, plum, cherry, and poplar, all contain a certain amount of astringent properties, but none of them are to be compared to galls, and are not likely to supercede them in the manufacture of ink so long as galls can be had for a fair price.

A Cheap Invisible Ink.—Dissolve 1 fluid oz. of common oil of vitriol in a pint of soft water. Stir well and allow it to cool. Write with a clean pen. When dry it will be invisible, held to the fire it turns an indellible black.

Green Ink.—Verdigris 2 oz., cream of tartar 1 oz., water $\frac{1}{2}$ pt., reduce one-half by boiling, and filter, using druggist's filtering paper.

Blue Ink.—Chinese blue 2 oz., boiling water 1 qt., oxalic acid 1 oz. Dissolve the blue in the water, then add the acid, and it is ready at once.

Soap-Bubbles.—Few things amuse children more than blowing bubbles. Dissolve $\frac{1}{4}$ of an oz. of castile or oil soap, cut up in small pieces, in $\frac{3}{4}$ of a pt. of water, and boil it for

two or three minutes; then add five oz. of glycerine. When cold, this fluid will produce the best and most lasting bubbles that can be blown.

To Prevent Rusting.—1. Boiled linseed oil will keep polished tools from rusting if it is allowed to dry on them. Common sperm oil will prevent them from rusting for a short period. A coat of copal varnish is frequently applied to polished tools exposed to the weather. Woolen materials are the best for wrappers for metals. 2. Iron and steel goods of all descriptions are kept free from rust by the following: Dissolve $\frac{1}{2}$ oz. of camphor in 1 lb. of hog's lard, take off the scum, and mix as much black-lead as will give the mixture an iron color. Iron and steel and machinery of all kinds, rubbed over with this mixture, and left with it on for 24 hours, and then rubbed with a linen cloth, will keep clean for months. If the machinery is for exportation it should be kept thickly coated with this during the voyage.

To Prevent Lead Exploding.—Many mechanics have had their patience sorely tried when pouring melted lead around a damp or wet joint to find it explode, blow out, or scatter from the effects of steam generated by the heat of the lead. The whole trouble may be stopped by putting a piece of resin the size of the end of a man's thumb into the ladle and allowing it to melt before pouring. Simple as the secret is, many have paid \$20 for the privilege of knowing it.

To Repair Rubber Hose.—Cut the hose apart where it is defective, obtain from any gas-fitter a piece of iron pipe two or three inches long, twist the hose over it until the ends meet, wrap with strong twine, well waxed, and it will last a long time.

To Keep Wagon Tires on the Wheel.—A practical

mechanic suggests a method of so putting tires on wagons that they will not get loose and require resetting. He says he ironed a wagon some years ago for his own use, and before putting on the tires, he filled the felloes with linseed oil, and the tires have worn out and were never loose. This method is as follows: Use a long cast-iron heater made for the purpose; the oil is brought to a boiling heat, the wheel is placed on a stick, so as to hang each felloe in the oil an hour. The timber should be dry, as green timber will not take oil. Care should be taken that the oil is not made hotter than a boiling heat, or the timber will be burned. Timber filled with oil is not susceptible of injury by water, and is rendered much more durable by this process.

The United States Government Tempering Secret.—

The following process and mixtures, patented by Garman and Siegfried, and owned by the Steel Refining and Tempering Co., of Boston, Mass., cost the U. S. Government \$10,000 for the right of using in their shops, and is said to impart extraordinary hardness and durability to the poorest kinds of steel. Siegfried's specification reads as follows:—

“I first heat the steel to a cherry red in a clean smith's fire, and then cover it with chloride of sodium (common salt), purifying the fire also by throwing in salt. I work the steel in this condition, and while subjected to this treatment, until it is brought into nearly its finished form. I then substitute for the salt a compound composed of the following ingredients, and in about the following proportions: One part by weight of each of the following substances: chloride of sodium (salt), sulphate of copper, sal-ammoniac, and sal-soda, together with $\frac{1}{2}$ part by weight of pure nitrate of potassa (saltpeter), said ingredients being pulverized and

mixed; I alternately heat the steel and treat it by covering with this mixture and hammering it until it is thoroughly refined and brought into its finished form. I then return it to the fire and heat it slowly to a cherry red, and then plunge it into a bath composed of the following ingredients, in substantially the following proportions for the required quantity: of rain-water 1 gal., alum, sal-soda, sulphate of copper, of each $1\frac{1}{2}$ oz., of nitrate of potassa (saltpeter) 1 oz., and of chloride of sodium (salt) 6 oz. These quantities and proportions are stated as being what I regard as practically the best, but it is manifest that they may be slightly changed without departing from the principles of my invention."

U. S. Mint Test for Counterfeit Silver.—Make a solution of 24 grs. nitrate of silver, 30 drops nitric acid, and 1 oz. of water; scrape the coin to be tested and apply a drop of the liquid; if the coin turns black, reject it.



THE
HOUSEKEEPER'S

MANUAL OF COOKING.



IN the following pages of the "Household Compendium," will be found a most concise and valuable collection of recipes and instructions for cooking. The experienced housewife will not be slow in discovering that this department is entirely reliable and trustworthy. Every recipe has been tested in the kitchen and found worthy of a place in this book.

In order that this Manual may be more serviceable, the following arrangement of topics has been made: Kitchen utensils, soups, fish, poultry and game, meats, vegetables, sauces, puddings, breakfasts and suppers, pies, custards and creams, ices, fruits, candy, bread and biscuits, drinks, beverages, etc., etc.

Kitchen Utensils.

Wooden Ware.—Kitchen table, wash bench, wash tubs (three sizes), wash board, bosom board, bread board, towel roller, potato masher, wooden spoons, flour sieve, chopping bowl, soap bowl, pails, lemon squeezer, clothes wringer, clothes horse, clothes pins, clothes basket, mop, broom, and wood box.

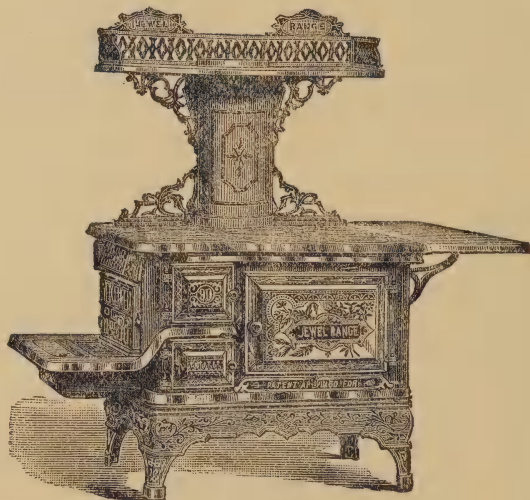


Fig. 102.

Tin Ware.—Boiler for clothes, boiler for ham, bread pan, two dish pans, preserving pan, four milk pans, two quart basins, two pint basins, two quart covered tin pails, one four-quart covered tin pail, sauce pans with covers (two sizes), two tin cups with handles, two pint molds (for rice, blanc-

mange, etc.), one skimmer, two dippers (different sizes), one quart measure, pint and half-pint measures (they should be broad and low, as they are more easily kept clean), bread pans, two round jelly cake pans, two long pie pans, coffee pot, tea steeper, steamer, horse-radish grater, nutmeg grater, egg beater, cake turner, cake cutter, apple corer, potato cutter, flour dredge, tea canister, coffee canister, cake, bread, cracker, and cheese boxes, crumb tray, and dust pans.

Iron Ware.—Range or stove, pot with steamer to fit, soup kettle, preserving kettle (porcelain), tea kettle, large and small frying pans, gem pans, iron spoons of various sizes, gridiron, griddle, waffle iron, toasting rack, meat fork, can opener, coffee mill, flat irons, hammer, tack hammer, screw driver, and ice pick.

Stone Ware.—Crocks (various sizes), bowls of pint, two quart, four quart, and six quart, six earthen baking dishes of various sizes.

Soups.

The basis of all good soups, is the broth of meat. This may be made by boiling the cracked joints of beef, veal, or mutton, and is best when cooked the day before it is to be eaten. After putting the meat into the pot, cover it with cold water and let it come to a boil, when it should be well skimmed. Set the meat where it will simmer slowly until it is thoroughly done, keeping the pot closely covered the while. The next day, when the soup is cold, remove the fat, which will harden on the top of the soup. After this, add the vegetables and the herbs you use for seasoning, cooking all well together. Before sending to the table, the

soup should be strained. A good stock for soups may be made from shreds and bits of uncooked meat and bones, poultry, and the remains of game. When these are all put together and stewed down in the pot, the French term it *consomme*, and use it chiefly in the preparation of brown soups.

Soups may be varied in many ways, chiefly in the kinds of vegetables and different seasonings used, as in herbs, burned caramel, eggs, or slices of bread fried to a crisp in butter, which impart a savory relish.

Potato Soup.—Slice and fry to a nice brown 4 large onions in one-fourth lb. butter in a soup pot, add 4 qts. of skim-milk, have peeled and boiled a good 3 pts. of potatoes, mash them fine and reduce smooth with the milk from your soup pot; repeat this till all the potatoes are in the soup pot; just bring to a boil, and add pepper and salt to taste.

Ox-Tail Soup.—Take 2 ox tails and 2 whole onions, 2 carrots, 1 small turnip, 2 table-spoonfuls of flour, and a little white pepper, add 1 gal. water, let all boil for 2 hours; then take out the tails and cut the meat into small pieces, return the bones to the pot for a short time, boil another hour, then strain the soup, and rinse 2 spoonfuls of arrowroot to add to it with the meat cut from the bones, and let all boil for a quarter of an hour.

Beef Soup.—Cut all the lean off the shank, and with a little beef suet in the bottom of the kettle, fry it to a nice brown; put in the bones and cover with water; cover the kettle closely; let it cook slowly until the meat drops from the bones, strain through a strainer and leave it in the dish during the night, which is the only way to get off all the fat. The day it is wanted for the table, fry as brown as

possible 1 carrot, 1 onion, and 1 very small turnip sliced thin. Just before taking up, put in one-half tea-spoonful of sugar, 1 blade of mace, 6 cloves, 12 kernels of allspice, 1 small tea-spoonful of celery seed, with the vegetables, this must cook slowly in the soup 1 hour, then strain again for the table. If you use vermicelli or pearl barley, soak in water.

Mutton Soup.—Boil a leg of mutton 3 hours, season to your taste with salt and pepper, and add 1 tea-spoonful of summer savory; make a batter of 1 egg, 2 table-spoonfuls of milk, 2 table-spoonfuls of flour, all well beaten together; drop this batter into the soup with a spoon, and boil for 3 minutes.

Oyster Soup.—Take 1 qt. of water, 1 tea-cupful of butter, 1 pt. of milk, 2 tea-spoonfuls of salt, 4 crackers rolled fine, and 1 tea-spoonful of pepper; bring to full boiling heat as soon as possible, then add 1 qt. of oysters. Let the whole come to a boiling heat quickly and remove from the fire.

Another.—Pour 1 qt. of boiling water into a skillet, then add 1 qt. of good rich milk, stir in 1 tea-cupful of rolled cracker crumbs, season with pepper and salt to taste. When all come to a boil, add 1 qt. of good fresh oysters; stir well, so as to keep from scorching, then add a piece of good sweet butter about the size of an egg; let it boil up once, then remove from the fire immediately; dish up and send to table.

Tomato Soup.—Boil chicken or beef 4 hours, then strain, add to the soup one can of tomatoes and boil 1 hour. This will make four quarts of soup.

Vermicelli Soup.—A knuckle of lamb, a small piece of veal, and water to cover well; when well cooked, season with salt, pepper, herbs to your taste, and a small onion, to which

you may add Halford or Worcestershire sauce about 1 tablespoonful. Have ready one-fourth lb. of vermicelli, which has been boiled tender, strain your soup from the meat, add the vermicelli, let it boil well and serve.

Tomato Soup without Meat.—1 qt. of tomatoes, 1 qt. of water, 1 qt. of milk. Butter, salt, and pepper to taste. Cook the tomatoes thoroughly in the water, have the milk scalding, (over water to prevent scorching). When the tomatoes are done, add 1 large tea-spoonful of saleratus, which will cause a violent effervescence. It is best to set the vessel in a pan before adding it, to prevent waste. When the commotion has ceased, add the milk and seasoning. When possible, it is best to use more milk than water, and cream instead of butter. The soup is eaten with crackers. This recipe is very valuable for those who keep abstinence days.

Corn Soup.—1 small beef bone, 2 qts. of water, 4 tomatoes, 8 ears of corn; let the meat boil a short time in the water, cut the corn from the cob and put in the cobs with the cut corn and tomatoes; let it boil about half an hour, remove the cobs; just before serving add the milk, which should be allowed to boil for a few moments only; season with salt and pepper.

Bean Soup.—1 pt. of beans, 4 qts. of water, small piece of fat beef, boil 3 hours and strain. If too thin add 1 tablespoonful of flour.

Noodles for Soup.—Rub into 2 eggs as much sifted flour as they will absorb, then roll out until thin as a wafer, dust over a little flour, and then roll over and over into a roll, cut off thin slices from the edge of the roll and shake out into long strips, put them into the soup lightly and boil

for ten minutes, salt should be added while mixing with the flour,—about a salt-spoonful.

Fish.

Fish are good when the gills are red, eyes are full, and the body of the fish is firm and stiff. After washing them well, they should be allowed to remain for a short time in salt water sufficient to cover them. Before cooking, wipe them dry, dredge lightly with flour, and season with salt and pepper. Salmon-trout and other small fish are usually fried or broiled; all large fish should be put in a cloth, tied closely with twine, and placed in cold water, when they may be put over the fire to boil. When fish are baked, prepare them the same as for boiling, and put in the oven on a wire gridiron, over a dripping-pan.

Boiled White Fish.—Lay the fish open, put it in a dripping-pan with the back down, nearly cover with water. To one fish add 2 table-spoonfuls of salt, cover tightly and simmer (not boil) one-half hour, dress with gravy, butter, and pepper, garnish with sliced eggs. For sauce, use a piece of butter the size of an egg, 1 table-spoonful of flour, one-half pt. of boiling water; boil a few minutes, and add 3 hard-boiled eggs, sliced.

Sauce for Boiled Fish.—To 1 tea-cupful of milk add 1 tea-cupful of water, put it on the fire to scald, and when hot stir in 1 table-spoonful of flour, previously wet with cold water; add 2 or 3 eggs, season with salt and pepper, a little celery, vinegar, and 3 table-spoonfuls of butter. Boil 4 or 5 eggs hard, take off the shells, and cut in slices, and lay over the dish. Then pour over the sauce and serve.

Baked Black Bass.—8 good-sized onions chopped fine, half that quantity of bread crumbs, butter size of hen's egg, plenty of pepper and salt, mix thoroughly with anchovy sauce until quite red. Stuff your fish with this compound and pour the rest over it, previously sprinkling it with a little red pepper. Shad, pickerel, and trout are good, cooked in the same way. Tomatoes can be used instead of anchovies, and are more economical. If using them, take pork in place of butter and chop fine.

Broiled White Fish.—Wash and drain the fish, sprinkle with pepper and lay with the inside down upon the gridiron, and broil over fresh bright coals. When a nice brown, turn for a moment on the other side, then take up and spread with butter. This is a very nice way of broiling all kinds of fish, fresh or salted. A little smoke under the fish adds to its flavor. This may be made by putting two or three cobs under the gridiron.

Eels.—Skin and parboil them, cleanse the back bone of all coagulations, cut them in pieces about 3 inches in length, dip in flour, and cook in pork fat; brown.

Salt Mackerel.—Soak the fish for a few hours in lukewarm water, changing the water several times; then put into cold water, loosely tied in cloths, and let the fish come to a boil, turning off the water once, and pouring over the fish hot water from the tea-kettle; let this just come to a boil, then take them out and drain them, lay them on a platter, butter and pepper them, and place them for a few moments in the oven. Serve with sliced lemons, or with any nice fish sauce.

Baked Halibut or Salmon.—Let the fish remain in cold water, slightly salted, for an hour before it is time to

cook it, place the gridiron on a dripping-pan with a little hot water in it, and bake in a hot oven; just before it is done, butter it well on the top, and brown it nicely. The time of baking depends upon the size of the fish. A small fish will bake in about half an hour, and a large one in an hour. They are very nice when cooked as above and served with a sauce which is made from the gravy in the dripping-pan, to which is added a table-spoonful of catsup and another of some pungent sauce and the juice of a lemon. Thicken with brown flour moistened with a little cold water. Garnish handsomely with sprigs of parsley and current jelly.

Oyster Patties.—Make some rich puff paste and bake it in very small tin patty-pans; when cool, turn them out upon a large dish; stew some large fresh oysters with a few cloves, a little mace, and nutmeg; then add the yolk of one egg, boiled hard and grated; add a little butter and as much of the oyster liquor as will cover them. When they have stewed a little while, take them out of the pan and set them to cool. When quite cold, lay two or three oysters in each shell of puff paste.

Stewed Oysters.—Drain the liquor from 2 qts. of firm, plump oysters, mix with one small tea-cupful of hot water, add a little salt and pepper, and set over a fire in a sauce-pan. When it boils, add 1 large cupful of rich milk. Let it boil up once, add the oysters, and let it boil 5 minutes. When they ruffle add 2 table-spoonfuls of butter, and the instant it is melted and well stirred in, take off the fire.

Broiled Oysters.—Drain the oysters well and dry them with a napkin. Have ready a griddle hot and well-buttered, season the oysters, lay them on the griddle and brown them on both sides. Serve them on a hot plate with plenty of butter.

Oysters a la Creme.—1 qt. of oysters, 1 pt. of cream; put the oysters in a double kettle, cook until the milk juice begins to flow out, drain the oysters in a strainer. Put the cream on the same way; when it comes to a boil, thicken with flour wet with milk as thick as corn starch ready to mold; then put in the oysters and cook 5 minutes. Serve hot on toast.

Escaloped Oysters.—Butter the dish, (common earthen pie plates are the best), cover the bottom of the dish with very fine bread crumbs; add a layer of oysters; season with pepper and salt; alternate the crumbs and oysters until you have three layers; finish with crumbs; cover the top with small pieces of butter; finish around the edge with bread cut into small oblong pieces dipped in butter; bake half an hour; unless shell oysters, wash them thoroughly and strain.

To Fry Oysters.—Use the largest and best oysters; lay them in rows upon a clean cloth and press another upon them, to absorb the moisture; have ready several beaten eggs, and in another dish some finely crushed crackers; in the frying-pan heat enough butter to entirely cover the oysters; dip the oysters first into the eggs, then into the crackers, rolling them over that they may become well incrustated; drop into the frying-pan, and fry quickly to a light brown. Serve dry and let the dish be warm. A chafing dish is best.

Stewed Tripe.—Select 2 lbs. of double tripe well cleaned and blanched, cut in pieces of rather less than a quarter of a pound each, put in a clean stew-pan with 1 pt. of milk, and one of water, 2 tea-spoonfuls of salt, 1 tea-spoonful of pepper, 8 middle-sized onions carefully peeled;

set it on to boil, which it should do at first rather fast, then simmer till done, which will be in rather more than half an hour. Put it into a deep dish or tureen, and serve with the milk and onions.

Poultry and Game.

When poultry is brought into the kitchen for use, it should be kept as cool as possible. The best position in which to place it is with the breast downward on a shelf or marble slab. The crop should be taken out. Choose fowls with a thin, transparent skin, white and delicate. Time required to boil poultry: a chicken will take about 20 minutes, a fowl about 40 minutes, a small turkey $1\frac{1}{2}$ hours, a large turkey 2 hours or more.

Preparation of Hashes, Gravies, and Sauces.—There is nothing worse for the health or for the palate than a *poor hash*, while a *good hash* is not only a favorite dish in most families, but an essential article of economy and convenience. For this reason a separate article is devoted to this subject. The following are the ways in which hashes are spoiled. The first is by *cooking* them. Meat, when once cooked, should only be *heated*. If it is again stewed or fried, it tends to make it hard or tough, and diminishes its flavor. The second is by frying the *butter* or *gravy* in which they are prepared. It has been shown that this is very injurious to the healthfulness of food. Butter and oils may be *melting* without changing their nature, but when *cooked*, they become much more indigestible and injurious to weak stomachs. The third mode of injuring hashes is by putting in flour in such ways that it is not properly cooked. Flour

dredged on to hashes while they are cooking imparts the raw taste of dough. The fourth mode is by putting in so much water as to make them vapid, or else so much grease as to make them gross. The fifth is by seasoning them with so little care, that they either have very little savory taste, or else are so hot with pepper and spice as to be unhealthy. If the housekeeper will observe these cautions, or see that her cook does so, she may always have good and healthful hashes.

Boiled Fowl.—Take a young fowl and fill the inside with oysters; place in a jar and plunge into a kettle of water; boil $1\frac{1}{2}$ hours; there will be a quantity of gravy in the jar from the juice of the fowl, and the oysters; make this into a white sauce, with the addition of egg, cream, or a little flour and butter; add oysters, or serve up plain with the fowl. This is very nice with the addition of a little parsley to the sauce.

Roast Turkey or Chicken.—Having picked and drawn the fowls, wash them well in two or three waters; wipe them dry; dredge them with a little flour inside and out, and a little pepper and salt; prepare a dressing of bread and cracker crumbs, fill the bodies and crops of the fowls and then bake them from 2 to 3 hours; baste them frequently while roasting; stew the giblets in a saucepan; just before serving, chop the giblets fine; after taking up the chicken and the water in which the giblets were boiled, add the chopped giblets to the gravy of the roast fowl; thicken with a little flour, which has been previously wet with the water; boil up and serve in a gravy-dish. Roast chicken and turkey should be accompanied with celery and jellies.

To Boil a Turkey.—Make a stuffing for the craw of

chopped bread and butter, cream, oysters, and the yolks of eggs; sew it in, and dredge flour over the turkey, and put it to boil in cold water, with a spoonful of salt in it, and enough water to cover it well; let it simmer for $2\frac{1}{2}$ hours, or if small, less time; skim it while boiling. It looks nicer if wrapped in a cloth dredged with flour; serve it with drawn butter, in which put some oysters.

Roast Chickens.—Wash them clean outside and inside, stuff as directed for turkeys, and baste with butter, lard, or drippings, and roast them about an hour. Chickens should be cooked thoroughly. Stew the inwards till tender and till there is but little water, chop them and mix in gravy from the dripping-pan, thicken with brown flour, season with salt, pepper, and butter. Cranberry or new-made apple sauce is good with them.

Baked Chicken.—Cut the fowl open and lay it flat in a pan, breaking down the breast and the back bones, dredge with flour and season well with salt and pepper and bits of butter; put in a very hot oven until done, basting frequently with melted butter, or when half done take out the chicken and finish by broiling it upon a gridiron over bright coals; pour over it melted butter and the juices in the pan in which it was baked.

Dressing for Chicken or Turkey.—Chop bread crumbs quite fine, season well with pepper, salt, and plenty of butter, moisten with a very little water, and add a few oysters with a little of the liquor, if you please. The best authorities say the dressing is the finest when it crumbles as the fowl is cut.

Dressing for Turkey.—One pint of soaked bread, 2 table-spoonfuls of sage, 2 table-spoonfuls of summer savory,

2 tea-spoonfuls of salt, 2 tea-spoonfuls of pepper, butter the size of an egg.

Fried Chicken.—Cut the chicken in pieces, lay it in salt and water, changing the water several times, roll each piece in flour, fry in very hot lard or butter, season with salt and pepper, fry parsley with it also. Make a gravy of cream seasoned with salt, pepper, and a little mace, thickened with a little flour in the pan in which the chicken was fried, pouring off the lard.

Curry.—To make curry with rabbit, chicken, or any other meat, flour the meat and fry it a nice light brown, fry also 2 large onions in the same way, mix a table-spoonful of curry powder, and a small quantity of cayenne in a tea-cup, with warm water, to the consistency of cream, and cover every part of the meat with the mixture; have ready some nice stock or thin gravy, put all together in a stew-pan, and let it stew gently 20 minutes; before serving, slice 2 or 3 apples, let them stew away; this addition is thought to be a great improvement as it makes the curry milder. Some rice should be boiled very dry and served around the dish.

Chicken Pie.—Stew chickens until tender, line the sides of a deep pie dish with nice pastry, put in the chicken and the water in which it has boiled (which should be but half a pint), season with a large piece of butter, salt, and pepper, and then cover loosely with crust. While this is baking, have ready a quart can of fine oysters, put on the fire 1 pt. of rich milk (or the liquor of the oysters will do), let it come to a boil, thicken with a little flour, and season with butter, pepper, and salt; pour this over the oysters boiling hot; and about fifteen minutes before the pie is done, lift the crust and pour the oysters and all into the pie, then return to the oven to finish.

To Roast Wild Fowl.—Put an onion, salt, and hot water into a pan, and baste for 10 or 15 minutes; change the pan, put in a slice of salt pork, and baste with butter and pork drippings very often, just before serving dredge lightly with flour and baste. Ducks take from 25 to 35 minutes to roast, and woodcocks and snipes 15 to 25. Do not draw or take off the heads of either. Garnish with fried or toasted bread, lemon, parsley, and currant jelly.

Ducks.—When roasted, use dressing as for turkey, with the addition of a few slices of onion. Many cooks lay over the game slices of onion, which take away the fishy flavor, removing the onion before serving. Make a sauce with the drippings in the pan in which the game is roasted, and to which are put the chopped giblets, being previously well cooked; thicken the gravy with brown flour, moistened with water. Serve with currant jelly.

Prairie Chickens, Partridges, and Quails.—Clean nicely, using a little soda in the water in which they are washed, rinse them and dry, and then fill them with dressing, sewing them up nicely, binding down the legs and wings with cords. Put them in a steamer over hot water, and let them cook until just done. Then place them in a pan with a little butter, set them in the oven and baste them frequently with melted butter until of a nice brown. They ought to brown nicely in about 15 minutes. Serve them on a platter, with sprigs of parsley alternating with currant jelly.

Quail on Toast.—After the birds are nicely cleaned, cut them open down the back, salt and pepper them, and dredge with flour. Break down the breast and back bones, so they will lie flat, and place them in a pan with very little water and butter in a hot oven, covering them up tightly

until nearly done. Then place them in a spider in hot butter, and fry a moment to a nice brown. Have ready slices of baker's bread, toasted and slightly buttered upon a platter. The toast should be broken down with a carving knife so that it will be tender. On this place the quail, make a sauce of the gravy in the pan, thicken slightly with browned flour, and pour over each quail and the toast.

Pigeon Pie.—Make a fine puff paste, lay a border of it around a large dish, and cover the bottom with a veal cutlet, or a very tender steak free from fat and bone, season with salt, cayenne pepper, and mace. Prepare as many pigeons as can be put in one layer of the dish, put in each pigeon a small lump of butter, and season with pepper and salt; lay them in the dish breast downward, and cut in slices half a dozen of hard boiled eggs, and lay in with the birds; put in more butter, some veal broth, and cover the whole with crust. Bake slowly $1\frac{1}{2}$ hours.

Meats.

All salt meat should be put on in cold water, that the salt may be extracted while cooking. Fresh meat, which is boiled to be served with sauces at the table, should be put to cook in boiling water; when the outer fibers contract, the inner juices are preserved.

For making soup, put the meat over in cold water, to extract the juices for the broth.

In boiling meats, if more water is needed, add that which is hot, and be careful to keep the water on the meat constantly boiling.

Remove the scum when it first begins to boil. The more gently meat boils, the more tender it will become. Allow twenty minutes for boiling each pound of fresh meat.

Roast meats require a brisk fire. Baste often. Twenty minutes is required for roasting each pound of fresh meat. The variation in roasted meats consists simply in the method of preparing them to cook, before putting them in the oven. Some are to be larded, some stuffed with bread dressing, and others plain, only seasoning with pepper and salt.

A piece of red pepper, cooked in a boiled dinner, is very nice.

Roast Beef.—Prepare for the oven by dredging lightly with flour, and seasoning with salt and pepper; place in the oven, and baste frequently while roasting. Allow a quarter of an hour for a pound of meat, if you like it rare; longer if you like it well done. Serve with a sauce, made from the drippings in the pan, to which has been added 1 table-spoonful of Halford or Worcestershire sauce and 1 table-spoonful of tomato catsup.

Beefsteak and Mushrooms.—Put in a saucepan 1 oz. of butter, 1 small onion chopped fine, a little ground sage, and a little thyme, and put it over the fire; when hot, shake in 2 table-spoonfuls of flour, and when it becomes brown, put in 1 gill of water, and let it boil for half an hour. Then add 3 table-spoonfuls of beef stock, a little salt, a little nutmeg and one wine-glass of sherry wine. Put in one can of mushrooms, and let it boil for 10 minutes. Pour this over a nicely broiled beefsteak.

To Boil Corned Beef.—Put the beef in water enough to cover it, and let it heat slowly and boil slowly, and be careful to take off the grease. Many think it much im-

proved by boiling potatoes, turnips, and cabbages with it. In this case the vegetables must be peeled and *all* the grease carefully skimmed as fast as it rises. Allow about 20 minutes of boiling for each pound of meat.

To Cook a Ham.—Boil a common-sized ham 4 or 5 hours, then skin the whole and fit it for the table. Set it in an oven for half an hour, then cover it thickly with pounded rusk or bread crumbs, and set it back for half an hour. Boiled ham is always improved by setting it into an oven for nearly an hour, till much of the fat fries out; this also makes it more tender.

Spiced Beef.—4 lbs. of round of beef chopped fine, all fat being removed; add 3 doz. small crackers rolled fine, 4 eggs, 1 cup of milk, 1 table-spoonful of ground mace, 2 table-spoonfuls of black pepper, 1 table-spoonful of melted butter; mix well and put in any tin pan that it will just fill, packing it well; baste with butter and water, and bake 2 hours in a slow oven.

To Corn Beef.—To each gallon of cold water, put 1 qt. rock salt, 1 oz. salt-petre and 4 oz. brown sugar, (it need not be boiled), as long as any salt remains undissolved, the meat will be sweet. If any scum should rise, scald and skim well; add more salt, salt-petre, and sugar; as you put each piece of meat into the brine, rub over with salt. If the weather is hot, gash the meat to the bone, and put it in salt. Put a flat stone or some weight on the meat to keep it under the brine.

Pickled Pork Equal to Fresh.—Let the meat cool thoroughly, cut into pieces four to six inches wide, weigh them, and pack as tight as possible, salting lightly. Cover the meat with brine as strong as possible. Next day pour off

a gallon of the brine and mix with it a table-spoonful of salt-peter for every hundred pounds of meat, and return it to the barrel. Let it stand one month, take out the meat and let it drain 12 hours. Put the brine into an iron kettle, add 1 qt. molasses or 2 lbs. sugar, and boil till clear. When cold return the meat to the barrel and pour on the brine. Cover it close, and you will have the sweetest meat you ever tasted.

Mutton Chops.—Cut them nicely, clearing away all ragged ends and edges; fry for a few moments covered closely, and then dip each piece in cracker crumbs and beaten egg, or you may prepare them as for frying; then, lay them in a dripping-pan, and put into the oven to bake; baste frequently with a little melted butter and water.

Roast Veal.—Prepare a leg of veal for the oven by washing, drying, and larding it with strips of fat bacon or ham, and dredging it well with flour, and seasoning with salt and pepper; baste frequently and serve with the gravy thickened. A roast fillet of veal should be prepared by stuffing it with bread crumbs, seasoned with chopped ham, summer savory, pepper and salt. Dredge lightly with flour and bake.

Fried Calf's Liver.—Cut in thin slices, wash and drain, roll them in corn meal or cracked crumbs, and fry in fresh or salt pork gravy or butter.

To Cook Sliced Ham.—Cut raw ham in slices, soak in scalding water half an hour, lay your slices in a frying-pan, pepper each, and lay on each slice a little made mustard; pour in half a tea-spoonful of vinegar to each slice; fry quickly, turn often. When done take out, serve on a dish, add to the gravy 1 spoonful of wine, (if you have any

handy), and 1 tea-spoonful of sugar. Boil up once, pour over your ham, and serve.

Baked Ham.—Most persons boil ham. It is much better baked, if baked right. Soak it for an hour in clean water and wipe it dry, next spread it all over with thin batter, and then put it into a deep dish with sticks under it to keep it out of the gravy. When it is fully done and the batter crusted on the flesh side, take off the skin and set it away to cool.

To Boil Ham.—Wash and scrape the ham clean; put it on in cold water enough to cover it; put into the water 2 onions, 2 carrots, a head of celery, a dozen cloves and a handful of timothy hay; boil without stopping until the skin will readily peel from the ham; cover the ham with rolled crackers, or bread crumbs that have been browned and rolled, and bake in a slow oven for 2 hours.

Salads, Sauces, and Pickles.

Chicken Salad.—Three chickens chopped fine, both light and dark meat, the juice of two lemons, 8 or 10 eggs boiled hard, the whites chopped fine and the yolks mashed fine, moisten with 6 tea-spoonfuls melted butter, 2 tea-spoonfuls sweet oil; to which add 1 table-spoonful of mustard, 1 of pepper, 1 of salt, 1 of sugar, 3 of cream; and last, add 6 large bunches of celery chopped fine, with sufficient vinegar to moisten the whole.

Chicken Salad, No. 2.—Boil one chicken tender, then take the meat and chop up, take 2 table-spoonfuls of mustard, 3 eggs boiled hard, chop the whites with the chickens, rub the yolks up fine with the mustard, 1 table-spoonful of

salt, 3 table-spoonfuls melted butter, 1 table-spoonful black pepper, vinegar enough to moisten it, chop 3 heads of celery to one chicken, mix all together and serve.

Fish Salad.—Boil tender a white-fish or trout; chop fine; add same quantity chopped celery, cabbage, or lettuce; season same as chicken salad.

Cabbage Salad.—First prepare the cabbage by letting it stand for some time in cold water, in order to make it crisp; dry well and shave as finely as possible. Choose a firm, white cabbage. Dressing: Rub together a piece of butter the size of a walnut, and 1 table-spoonful of flour; stir in 2 table-spoonfuls of vinegar, and scald for 1 minute; then add the yolk of 1 egg (beaten) and two table-spoonfuls of cream; salt and pepper to taste.

Salad Dressing.—The yolk of 4 eggs, two-thirds of a cup of oil, red pepper, salt and mustard to taste, the juice of 2 lemons, and last of all, 1 cup of thick cream. If the dressing is for chicken salad, use the oil or fat from the chicken instead of sweet oil. Be sure and put the cream in last, just before sending to the table.

Mint Sauce.—Mix 1 table-spoonful of white sugar to half a tea-cup of good vinegar; add the mint and let it infuse for half an hour in a cool place before sending to the table. Serve with roast lamb or mutton.

Celery Sauce.—Mix 2 table-spoonfuls of flour with half a tea-cup of butter; have ready a pint of boiling milk; stir the flour and butter into the milk; take 3 heads of celery, cut into small bits, and boil for a few minutes in water, then strain it off; put the celery into the melted butter, and keep it stirred over the fire for 5 or 10 minutes. This is very nice with boiled fowl or turkey.

Egg Sauce.—Take the yolks of 2 eggs boiled hard; mash them with 1 tea-spoonful of mustard, a little pepper and salt, 3 table-spoonfuls of vinegar, and 3 of sweet oil. A table-spoonful of catsup improves this for some. Nice for boiled fish.

Tomato Sauce.—36 ripe tomatoes, 6 green peppers, 2 onions chopped fine, 2 cups of sugar, 2 table-spoonfuls of salt, 2 tea-spoonfuls of ground cloves, 2 tea-spoonfuls of mustard, 2 tea-spoonfuls of cinnamon, and 2 cups of vinegar; boil half a day.

Fish Sauce.— $\frac{1}{4}$ lb. of fresh butter, 1 table-spoonful of finely chopped parsley, a little salt and pepper, and the juice of 2 lemons. Cream the butter; mix all well together, adding at the least 1 tea-spoonful of mayonaise. Less lemon juice may be used if preferred.

Tomato Mustard.—1 peck of ripe tomatoes; boil with 2 onions, 6 red peppers, and 4 cloves of garlic, for 1 hour; then add one-half pt. or one-half lb. salt, 3 table-spoonfuls black pepper, one-half oz. ginger, one-half oz. allspice, one-half oz. mace, one-half oz. cloves; then boil again for 1 hour longer, and when cold add 1 pt. vinegar and one-quarter pound of mustard; and if you like it very hot, a table-spoonful of cayenne.

Horse-Radish Sauce.—2 tea-spoonfuls of made mustard, 2 of white sugar, one-half tea-spoonful of salt, and a gill of vinegar; mix and pour over grated horse-radish. Excellent with beef.

French Pudding Sauce.—Beat 4 oz. butter to a cream; stir in one-quarter oz. brown sugar; add the yolk of 1 egg and 1 gill of wine; put it on the stove, stirring all the time till it simmers. Grate nutmeg over it before sending it to the table.

Tomato Catsup.—Boil the tomatoes until quite soft, and rub them well through a sieve; to every quart add 2 oz. shalots and large red peppers, or 1 tea-spoonful cayenne pepper, 1 oz. bruised ginger, 1 spoonful salt, a few cloves; boil until reduced one-third; 10 minutes before taking off the fire add one-half pt. of vinegar to each quart.

Pickled Cherries.—5 lbs. of cherries, stoned or not, 1 qt. of vinegar, 2 lbs. of sugar, one-half oz. of cinnamon, one-half oz. of cloves, one-half oz. of mace; boil the sugar and vinegar and spices together, (grind the spices and tie them in a muslin bag), and pour hot over the cherries.

Spiced Currants to be Eaten with Meats.—4 qts. currants, 1 pt. of vinegar, 3 lbs. of sugar, 1 table-spoonful cinnamon, 1 of allspice, 1 of cloves, 1 of nutmeg; cook 1 hour; keep in a cool place, tightly covered.

Green-Tomato Pickles.—Cut one-half pk. of green tomatoes and 6 large onions into thin slices; let them remain in salt and water over night; then pour off the brine and put them in a preserving kettle with 4 table-spoonfuls of sugar, 4 of the best mustard, two tea-spoonfuls of ground cloves, 2 of cinnamon, 1 of cayenne pepper, and one of curry powder, and let them simmer for 1 hour; then put them in stone or glass jars.

Pickled Cabbage.—Select solid heads, slice very fine, put into a jar, cover with boiling water; when cold, drain off the water, and season with grated horse-radish, salt, equal parts of black and red pepper, cinnamon, and cloves whole; cover with strong vinegar. This is convenient and always good.

Spiced Tomatoes.—To 4 lbs. of large red tomatoes, take 2 lbs. of good brown sugar, 1 pt. of cider vinegar, one-half

oz. cloves, and one-half oz. of stick cinnamon; stew all together in a preserving kettle until the tomatoes are cooked; take the tomatoes out and put them on dishes to cool, letting the syrup go on simmering slowly; when the tomatoes are cold, return them to the syrup for a little while; let them become cold before putting them into the jars. The syrup must be boiled down as thick as molasses, and poured cold over the tomatoes; tie them down with bladder or waxed paper.

Chow Chow.—2 qts. tomatoes, 2 white onions, one-half doz. green peppers, 1 doz. cucumbers, 2 heads of cabbage, all chopped fine; let this stand over night; sprinkle a tea-cup of salt in it. In the morning drain off the brine, and season with 1 table-spoonful celery seed, 1 oz. turmeric, one-half tea-spoonful cayenne pepper, 1 cup brown sugar, 1 oz. cinnamon, 1 oz. allspice, 1 oz. black pepper, one fourth oz. cloves, vinegar enough to cover; boil 2 hours.

Ripe Tomato Pickles.—To 7 lbs. of ripe tomatoes add 3 lbs. sugar, 1 qt. vinegar; boil them together 15 minutes; skim out the tomatoes and boil the syrup a few minutes longer; spice to suit the taste with cloves and cinnamon.

Tomatoes Whole for Winter Use.—Fill a large stone jar with ripe tomatoes, then add a few whole cloves and a little sugar; cover them well with one-half cold vinegar and one-half water; place a piece of flannel over the jar, well down into the vinegar, then tie down with paper. I have kept tomatoes in this way the year round, and can cheerfully recommend them. Should mildew collect on the flannel it will not injure the tomatoes in the least.

Pickled Oysters.—Wash the oysters and scald them in strong salt and water; skim them out and throw into cold

water; scald whole peppers well in vinegar; let it get cold. Put the oysters in a stone jar; make liquor to cover them of the water they were scalded in, and vinegar. A cup of vinegar to one quart liquor, to be used cold.

Relishes.

Scrambled Eggs.—Beat up 6 eggs with 2 oz. of butter, 1 table-spoonful of cream of new milk, a little chopped parsley, and salt; put all in a saucepan, and keep stirring over the fire until it begins to thicken, when it should be immediately dished on buttered toast.

French Toast.—To 1 egg thoroughly beaten, put 1 cup of sweet milk and a little salt. Slice light bread, and dip into the mixture, allowing each slice to absorb some of the milk, then brown on a hot buttered griddle, spread with butter, and serve hot.

Breakfast Steak.—A nice steak of beef or veal; pound it, if tough, with a steak mallet; lay in a baking tin, dredge it lightly with flour, season with salt and pepper, and, if you like, a little chopped parsley; then put into the oven and bake for 20 or 30 minutes, or until sufficiently well done; put it on the platter, spread with butter. Dredge into the juices of the meat in the baking pan a little flour, and season with butter; let this boil up and pour over the steak. This is very nice.

A Nice Breakfast Dish.—Mince cold beef or lamb; if beef, put in a pinch of pulverized cloves; if lamb, a pinch of summer savory to season it, very little pepper and some salt, and put it into a baking dish; mash potatoes and mix them with cream and butter and a little salt, and spread

them over the meat; beat up an egg with cream or milk, a very little; spread it over the potatoes, and bake it a short time, sufficient to warm it through and brown the potatoes.

Rice Cakes.—1 tea-cup of soft boiled rice, the yolk of 1 egg, a pinch of salt, 2 table-spoonfuls of sifted flour, beaten well, and seasoned with salt, pepper, and gravy; lay pie crust round the edge of the platter, and cover the same; bake a nice brown in the oven.

To Stew Mushrooms.—Peel them and put them to stew in some milk till tender; when sufficiently done, add to them some butter and flour mixed together, a little cayenne, and some salt; part cream instead of milk will improve them.

Excellent Omelet.—6 eggs, whites and yolks beaten separately; one-half pint of milk, 6 tea-spoonfuls of corn starch, 1 tea-spoonful of baking powder, and a little salt; add the whites, beaten to a stiff froth, last; cook in a little butter.

Cheese Scollop.—Soak 1 cup of dry bread crumbs in fresh milk. Beat into this 3 eggs; add 1 table-spoonful of butter and one-half pound of grated cheese; strew upon the top sifted bread crumbs, and bake in the oven a delicate brown. An excellent relish when eaten with thin slices of bread and butter.

White Corn Bread.—1 pt. of meal thoroughly scalded with hard boiling water; butter the size of an egg, and 1 well-beaten egg; add milk to make it just thin enough to flow over the pan. Have the batter an inch thick, and then bake.



Puddings.

Suet Puddings.—2 cups of chopped suet, 2 of raisins, 2 of molasses, 4 of flour, 1 of milk, 3 tea-spoonfuls of baking-powder; boil $3\frac{1}{2}$ hours; eat while hot. Sauce for same: 1 cup of sugar, one-half cup of butter, 1 egg, 1 table-spoonful of wine or vinegar; beat 15 minutes and heat to a scald.

English Fruit Pudding.—1 lb. currants, 1 lb. stoned raisins, 1 lb. sugar, 1 lb. suet, 2 lbs. grated or soaked bread, 6 eggs, one-half tea-spoonful saleratus, 1 tea-spoonful salt, and 1 grated nutmeg; crumb the soft part of the bread fine; soak the crust with boiling milk, or water will do; beat up the eggs and put all together, mix thoroughly with the hands; take a square piece of cotton cloth and lay it in a tin pan, put the pudding into the cloth and tie down close; put into a pot of boiling water, and boil 5 hours; as the water boils away, keep adding more.

Chocolate Pudding.—1 qt. milk, 3 table-spoonfuls sugar, 4 table-spoonfuls corn starch, $2\frac{1}{2}$ table-spoonfuls chocolate; scald the milk over hot water; dissolve the corn starch in a little scalded milk, and before it thickens add the chocolate dissolved in boiling water; stir until sufficiently cooked. Use with cream, or sauce of butter and sugar stirred to a cream.

Cottage Pudding.—1 cup of sugar, 1 cup of sweet milk, 1 pt. of flour, 2 table-spoonfuls of melted butter, 1 tea-spoonful of soda, 2 tea-spoonfuls of cream tartar, 1 egg.

Rice and Apple Pudding.—1 cup rice boiled *very* soft, stir well to keep from burning; 8 large apples, stewed; press the pulp through a sieve, mix it thoroughly with the rice; add half a tea-spoonful of butter and yolks of two eggs

well beaten; sweeten to taste. Bake. Beat the whites of the eggs and put on top. It is nicer almost cold.

Baked Indian Pudding.—2 qts. scalded milk with salt, $1\frac{1}{2}$ cups Indian meal (yellow); 1 table-spoonful of ginger, letting this stand 20 minutes; 1 cup molasses, 2 eggs (sal-eratus, if no eggs), a piece of butter the size of a common walnut. Bake 2 hours. Splendid.

Sago and Apple Pudding.—Boil a cup of sago in water with a little cinnamon, a cup of sugar, lemon flavoring; cut apples into thin slices, mix them with the sago; after it is well boiled, add a small piece of butter; pour into pudding dish and bake half an hour.

Orange Pudding.—Peel and cut five good oranges into thin slices, taking out all seeds; put over them a coffee cup of fine white sugar. Let a pint of milk get boiling hot, by setting in hot water; add the yolks of 3 eggs well beaten, 1 table-spoonful of corn starch made smooth in a little cold milk; stir all the time, and as soon as it thickens pour it over the fruit. Beat the whites to a stiff froth, add a table-spoonful of sugar, and spread it over the top for frosting; set in the oven a minute to harden. Can be eaten hot, but is best cold.

Floating Island.—Put a quart of milk to boil, sugar, salt, and flavoring to taste; separate 3 eggs; beat the whites to a stiff froth; drop them in the boiling milk from a table-spoon, letting them remain half a second; then take $2\frac{1}{2}$ table-spoonfuls of corn starch; put it into the boiling milk, let it remain 5 minutes, then add the yolks, let it boil 2 minutes, and take it off to cool, then place it in a glass dish, and drop the whites upon it with a spoonful of currant jelly on each.

Pudding Sauces.

Wine Sauce.—2 tea-cups of sugar, 1 tea-cup of butter, stir to a cream, beat 2 eggs very light, and stir all together, add 1 cup of wine, mix and set on top of tea-kettle of boiling water. It must not be put on the stove, nor boil.

Pudding Sauce.—2 eggs well beaten, 1 cup pulverized sugar. When mixed pour over 1 cup boiling milk, and stir rapidly. Flavor as you please.

Hard Sauce for Pudding, Rice, etc.—Take 1 tea-cup sugar, one-half tea-cup butter, stir together until light, flavor with wine or essence of lemon. Smooth the top with a knife, and grate nutmeg over it.

Pies.

Fine Puff Pastry.—1 lb. of flour, a little more for rolling-pin and board, and half a pound of butter and half a pound of lard. Cut the butter and lard through the flour (which should be sifted) into small thin shells and mix with sufficient ice-water to roll easily. Avoid kneading it, and use the hands as little as possible in mixing.

Plainer Pastry.—1 cup of butter, 1 cup of lard, a little salt, cut through the flour and mix lightly together. Some cooks mix the lard through the flour first, and then mix with water and roll out. Cut the batter into thin sheets, fold over and lay aside, cutting off from the roll what is used for the bottom or top crust as wanted.

Lemon Pie.—The juice and grated rind of 1 lemon, 1 cup of water, 1 table-spoonful corn starch, 1 cup sugar, 1 egg,

and a piece of butter the size of a small egg; boil the water, wet the corn starch with a little cold water and stir it in; when it boils up, pour it on the sugar and butter; after it cools add the egg and lemon. Bake with upper and under crust.

Pumpkin Pie.—1 qt. of strained pumpkins, 2 qts. rich milk, 1 tea-spoonful of salt, and 2 of ginger, cooked with the pumpkins; 6 well-beaten eggs, and $1\frac{1}{2}$ tea-cups of sugar.

Mince Pie.—3 cups chopped cooked meat, 6 cups of apples chopped fine; make moist with boiled cider and sweeten with molasses or dark sugar; spice to your taste using cloves, cinnamon, allspice, and a very little black pepper; put currents and raisins into the pies when ready to bake.

Another:—3 lbs. of raisins, stone and chop them a little; 3 lbs. of currants, 3 lbs. of sugar, 3 lbs. of suet chopped very fine, 2 oz. candied lemon peel, 2 oz. of candied orange peel, 6 large apples grated, 1 oz. of cinnamon, 2 nutmegs, the juice and grated rinds of three lemons, and one-half pt. of brandy. Excellent.

Rhubarb Pie.—1 cup of stewed pie-plant, 1 cup of sugar, 1 table-spoonful of flour, yolk of 1 egg; flavor with lemon; beat all together thoroughly. Don't use pie-plant too hot for fear it will cook the egg. Bake with just an under crust, and use the white of an egg for frosting.

Cocoanut Pie.—One-half lb. of grated cocoanut, three-quarters of a pound of white sugar, 6 ounces of butter, 5 eggs (the whites only), 2 table-spoonfuls rose-water, 1 tea-spoonful nutmeg. Cream the butter and sugar, beat till very light, and add the rose-water; then add the cocoanut

with as little and light beating as possible; finally whip in the stiffened whites of the eggs with a few skillful strokes and bake at once in open shells. Eat cold with powdered sugar sifted over them. These are very pretty and delicious pies.

Cream Pie.—Boil nearly 1 pint of new milk; take 2 small table-spoonfuls of corn starch beaten with a little milk; to this add 2 eggs; when the milk has boiled, stir this in slowly with 1 scant tea-cup of sugar, one-half cup of butter, and 2 tea-spoonfuls of lemon. Cakes: 3 eggs, 1 cup of white sugar, $1\frac{1}{2}$ cups of flour, 1 tea-spoonful of baking powder, mix it in flour; 3 table-spoonfuls of cold water; bake in two pie pans in a quick oven; split the cake while hot, and spread in the cream.

Cranberry Tart.—Take cranberries, pick and wash them in several waters, and put them into a dish with the juice of half a lemon, one-quarter of a pound of moist sugar or pounded loaf sugar to 1 qt. of cranberries; cover it with puff paste or short crust, and bake it three-quarters of an hour. If short crust is used, draw it from the oven 5 minutes before it is done, and ice it; return it to the oven, and send it to the table cold.

Custard Pie.—Make a custard of the yolks of 3 eggs with milk, season to taste; bake it in an ordinary crust; put it in a brick oven, that the crust may not be heavy, and as soon as that is heated remove it to a place in an oven of a more moderate heat, that the custard may bake slowly and not curdle; when done, beat the whites to a froth; add sugar and spread over the top, and return to the oven to brown slightly; a small pinch of salt added to a custard heightens the flavor; a little soda in the crust prevents it from being heavy. Very nice.

Custards, &c.

Rice Custard.—To half a cup of rice, add 1 qt. of milk and a little salt; steam 1 hour, or until quite soft; beat the yolks of 4 eggs with 4 table-spoonfuls of white sugar; add this just before taking off the rice; stir in thoroughly, but do not let it boil any more; flavor with vanilla. Beat the whites of the eggs to a stiff froth, with sugar; after putting the mixture into the pudding dish in which you serve it, put the whites over it, and let it slightly brown in the oven.

Boiled Custard.—2 table-spoonfuls of corn starch to 1 qt. of milk; mix the corn starch with a small quantity of the milk and flavor it; beat up 2 eggs. Heat the remainder of the milk to *near* boiling, then add the mixed corn starch, the eggs, 4 table-spoonfuls of sugar, a little butter and salt. Boil it 2 minutes, stirring briskly.

Apple Custard.—Take 6 tart apples, pare and quarter them, put into a baking dish with 1 cup of water; cook until tender, but not to pieces, then turn them into a pudding dish and sprinkle sugar over to cover them; beat 8 eggs with sugar, mix with them 3 pts. of milk and a little nutmeg; turn it over the apples, and bake 25 minutes.

Trifle.—Slice sponge cake into thin layers spread with jam, soak in brandy or wine; put into a deep dish; make a thin custard of 1 qt. milk and 3 eggs; sweeten to taste, and pour over the cake. Take one-quarter pound almonds, pour boiling water on them so as to remove the peel, cut fine, and sprinkle over the custard; take 1 pt. of cream, whipped and sweetened, and lay over the custard.

Cocoanut Drops.—To one grated cocoanut, add half its

weight in sugar and the white of one egg, cut to a stiff froth; mix thoroughly and drop on buttered white paper or tin sheets. Bake 15 minutes.

A Nice Dessert Dish.—Fill a quart bowl with alternate layers of thinly sliced red apples and sugar, and add half a cup of water, cover with a saucer, held in place by a weight; bake slowly three hours; let it stand until cold, and you will turn out a round mass of clear red slices, imbedded in firm jelly. For an accompaniment to a dessert of blanc mange, rennet custard, cold rice pudding, or similar dishes, or even with nice bread and butter, there is nothing better.

Chocolate Caramels.—1 cup of grated chocolate, 3 cups of sugar, 1 cup of molasses, 1 cup of milk, and a small piece of butter. Boil for about 20 minutes, stirring all the time; pour into a buttered pan, and when nearly cold mark off in small squares.

Charlotte Russe.—Take 1 qt. of thin cream, sweeten and flavor, whip the cream until all is a froth; then take half a box of gelatine, put in as little cold water as possible to soak, and set on the stove to melt; let the gelatine cool before putting into the cream. Have a dish ready lined with cake or lady-fingers, pour the cream into it, and set on ice until ready for use.

Bread, Etc.

In the composition of good bread there are three important requisites,—good flour, good yeast, and strength to knead it well. Flour should be white and dry, crumbling easily again after it is pressed in the hand.

A very good method of ascertaining the quality of yeast will be to add a little flour to a very small quantity, setting it in a warm place. If in the course of 10 or 15 minutes it rises, it will do to use.

When you make bread, first set the sponge with warm milk or water, keeping it in a warm place until quite light. Then mold this sponge by adding flour into one large loaf, kneading it well. Set this to rise again, and when sufficiently light mold it into smaller loaves, let it rise again, then bake. Care should be taken not to get the dough too stiff with flour; it should be as soft as it can be to knead well. To make bread or biscuits a nice color, wet the dough over the top with water just before putting into the oven. The flour should always be sifted.

Yeast.—6 good potatoes grated raw, a little hop tea, 1 qt. of boiling water, three-fourths cup of brown sugar, one-half tea-spoonful of salt; when cold, add yeast to make it rise. Keep it covered and in a cool place.

Another.—Put 2 table-spoonfuls of hops into a muslin bag and boil them in 3 qts. of water for a few minutes; have ready 1 qt. of hot mashed potatoes, put in 1 cup of flour, 1 table-spoonful of sugar, and 1 of salt; pour over the mixture the boiling hop water, strain through a colander, put 1 pt. or less of fresh baker's yeast, or 2 cakes of yeast, in while it is warm, and set it in a warm place to rise. This yeast will keep 3 or 4 weeks, if set in a cool place. In making it from time to time, use a bowl of the same to raise the fresh with.

Boston Brown Bread.—To make 1 loaf: Rye meal unsifted, half a pt.; Indian meal sifted, 1 pt.; sour milk 1 pt.; molasses half a gill. Add 1 tea-spoonful of salt, 1 tea-spoon-

ful of soda dissolved in a little hot water, stir well, put in a greased pan, let it rise 1 hour, and steam 4 hours.

Bread.—Take 4 qts. of sifted flour, 1 tea-cupful of yeast, a pinch of salt, and wet with warm milk and water till stiff enough to knead. Work it on the board until it requires no more flour. If made at night the bread will be light enough to work over and put in pans early in the morning. This quantity will make two large loaves. One-third of the lump may be taken for rolls, which can be made by working in butter the size of an egg, and setting aside to rise again; when light the second time make out in oblong shapes; cover them with a cloth and let them rise again. As soon as they break apart, bake in a quick oven. They will not fail to be nice if they are baked as soon as they seam. This is the great secret of white, flaky rolls. Two or three potatoes will improve the bread. Good housekeepers always have flour sifted in readiness for use, and never use it in any other way.

Muffins.—1 table-spoonful of butter, 2 table-spoonfuls sugar, 2 eggs; stir all together; add 1 cup of sweet milk, 3 tea-spoonfuls of baking powder, flour to make a stiff batter. Bake 20 minutes in a quick oven.

Waffles.—1 qt. of sweet or sour milk, 4 eggs, two-thirds of a cup of butter, one-half a tea-spoonful of salt, 3 tea-spoonfuls of baking powder; flour enough to make a nice batter. If you use sour milk leave out the baking powder and use 2 tea-spoonfuls of soda. Splendid.

Corn Bread.—One-half pt. of buttermilk, one-half pt. of sweet milk, sweeten the sour milk with one-half tea-spoonful of soda; beat 2 eggs, whites and yolks together; pour the milk into the eggs, then thicken with about 9 table-

spoonfuls of sifted corn meal. Put the pan on the stove with a piece of lard the size of an egg; when melted, pour it in the batter. By stirring this lard it will grease the pan to bake in. Add a tea-spoonful of salt.

Graham Biscuits.—1 qt. of Graham flour, $3\frac{1}{2}$ heaping tea-spoonfuls of baking powder, 1 tea-spoonful of salt, and 1 of butter. Make into soft dough with milk.

Soda Biscuits.—To each qt. of flour add 1 table-spoonful of shortening, one-half tea-spoonful of salt, and $3\frac{1}{2}$ heaping tea-spoonfuls of good baking powder; mix baking powder thoroughly through the flour, then add the other ingredients. Do not knead, and bake quick. To use cream tartar and soda, take the same proportions without the baking powder, using instead 2 heaping tea-spoonfuls cream tartar and 1 of soda. If good they will bake in five minutes.

Strawberry Shortcake.—Make good biscuit crust, bake in two tins of same shape and size, mix berries with plenty of sugar, open the shortcake, butter well and place the berries in layers, alternated with the crust; have the top layer of berries, and over all put charlotte russe or whipped cream.

Orange Shortcake.—Make a nice shortcake, spread in layers of sliced oranges with sugar and a little cream. To be eaten with sweetened cream.

Apple Fritters.—1 tea-cupful of sweet milk, 1 table-spoonful of sweet light dough, dissolved in milk, 3 eggs beaten separately, 1 tea-spoonful of salt, $1\frac{1}{2}$ tea-cupfuls of flour, 1 table-spoonful of sugar, the grated peel of a lemon, and peeled apples sliced without the core. Drop into hot lard with a piece of apple in each one, and sprinkle with powdered or spiced sugar. Let them stand after making and they will be lighter. Good.

Buckwheat Cakes.—1 qt. of buckwheat flour, one-half a tea-cupful of corn meal or wheat flour, a little salt, and 2 table-spoonfuls of syrup. Wet these with cold or warm water to a thin batter, and add, lastly, 4 good table-spoonfuls of baking powder.

Fritters.—1 pt. sweet milk, 4 eggs, 1 qt. flour and 3 tea-spoonfuls baking powder sifted together. Serve warm with maple syrup.

Rolls.—To the quantity of light bread dough that you would take for twelve persons, add the white of 1 egg well beaten, 2 table-spoonfuls of white sugar, and 2 table-spoonfuls of butter; work these thoroughly together; roll out about one-half an inch thick; cut the size desired, and spread one with melted butter and lay another upon the top of it. Bake delicately, when they have risen.

French Rolls.—1 qt. flour, 2 eggs, one-half pt. milk, 1 table-spoonful of yeast, knead well; let it rise till morning. Work in 1 oz. of butter and mold in rolls; bake immediately.

Cream Cakes.—6 eggs, beaten separately, one-half pt. of sour cream, 1 pt. of sweet milk, 1 and one-half tea-spoonfuls of baking powder, flour enough to make a thin batter; bake in cups.

Mush.—Indian or oatmeal mush is best made in the following manner: Put fresh water in a kettle over the fire to boil, and put in some salt; when the water boils, stir in handful by handful corn or oatmeal until thick enough for use. In order to have excellent mush, the meal should be allowed to cook well, and long as possible while thin, and before the final handful is added. When desired to be fried for breakfast, turn into an earthen dish and set away to

cool. Then cut in slices when you wish to fry; dip each piece in beaten eggs and fry on a hot griddle.

Cakes.

In making cake, it is very desirable that the materials be of the finest quality. Sweet, fresh butter, eggs, and good flour are the first essentials. The process of putting together is also quite an important feature, and where other methods are not given in this work by contributors, it would be well for the young housekeeper to observe the following directions: Never allow the butter to oil, but soften it by putting it in a moderately warm place before you commence other preparations for your cake; then put it into an earthen dish (tin, if not new, will discolor your cake as you stir it) and add your sugar; beat the butter and sugar to a cream, add the yolks of the eggs, then the milk, and lastly the beaten whites of the eggs and flour. Spices and liquors may be added after the yolks of the eggs are put in, and fruit should be put in with the flour.

The oven should be pretty hot for small cakes, and moderate for larger. To ascertain if a large cake is sufficiently baked, pierce it with a broom-straw through the center; if done, the straw will come out free from dough; if not done, dough will adhere to the straw. Take it out of the tin about fifteen minutes after it is taken from the oven, not sooner, and do not turn it over on the top to cool.

Icing.—The following rules should be observed where boiled icing is not used:—

Put the whites of your eggs in a shallow earthen dish,

and allow at least a quarter of a lb., or sixteen table-spoonfuls, of the finest white sugar for each egg. Take part of the sugar at first and sprinkle over the eggs; beat them for about half an hour, stirring in gradually the rest of the sugar, then add the flavor. If you use the juice of a lemon, allow more sugar. Tartaric acid and lemon juice whiten icing. It may be shaded a pretty pink with strawberry syrup, or colored yellow by putting the juice and rind of a lemon in a thick muslin bag and squeezing it hard into the egg and sugar.

If the cake is well dredged with flour after baking, and then carefully wiped before the icing is put on, it will not run, and can be spread more smoothly. Put frosting on the cake in large spoonfuls, commencing at the center, then spread it over the cake with a large knife, dipping it occasionally in cold water. Dry the frosting on the cake in a cool dry place.

Boiled Icing.—1 pt. granulated sugar, moisten thoroughly with water sufficient to dissolve it when heated, and let it boil until it threads from the spoon, stirring often; while the sugar is boiling, beat the whites of 2 eggs till they are firm, then when thoroughly beaten, turn them into a deep dish, and when the sugar is boiled, turn it over the whites, beating all together rapidly until of the right consistency to spread over the cake. Flavor with lemon, if preferred. This is sufficient for two loaves.

Chocolate Cake.—1 cup of butter, 1 cup of milk, 3 cups of sugar, 4 cups of flour, 6 eggs, 1 tea-spoonful of soda, 2 tea-spoonfuls of cream of tartar; bake in layers like jelly cake. Icing for cake, to place between: 1 cup of sugar, 1 cake of chocolate, and the whites of 2 eggs whipped together

Cocoanut Cake.—1 cup of butter, 3 of sugar, 1 of milk, 4 of flour, 1 tea-spoonful of soda, 2 of cream of tartar, 5 eggs; bake in layers like jelly cake. Icing to place between the layers: Half a lb. of white sugar to the whites of 2 eggs, whip the eggs, add the grated cocoanut, and place between the layers.

Wedding Cake.—5 lbs. of seeded raisins, 2 lbs of currants, 1 lb. of citron, 12 eggs, 1 lb. of butter, 1 lb. of sugar (brown), 1 coffee-cup of molasses, a little brandy, 1 tea-cup of spices.

Cheap Good Cake.—1 cup of sugar, one-fourth cup of butter, three-fourths cup of cold water, $1\frac{3}{4}$ cups of flour, whites of 2 eggs, 1 tea-spoonful of lemon, baking powder used.

Gold Cake.—One-half cup of butter, 2 cups of sugar, one-half cup of milk, 3 of flour, 3 tea-spoonfuls of baking powder, and yolks of 4 eggs.

For the silver cake use the same recipe, only in place of the yolks of eggs use the whites of 4 eggs.

For marble cake, same recipe, using 1 cup of brown sugar, 1 cup of molasses, and some spices, and drop it in the dish on the white cake or silver recipe.

Jelly Cake.—3 eggs, 1 small tea-cupful of sugar, 1 cup of flour, whites and yolks of the eggs beaten together; flavor, and bake in 2 layers, in a quick oven.

Fruit Cake.—2 lbs. of stoned raisins, 2 lbs. of currants, 1 lb. of butter, 1 lb. of sugar, $1\frac{1}{4}$ lbs. of flour, 10 eggs, 1 wine-glass of brandy, 1 wine-glass of wine, 1 table-spoonful of cloves, 1 table-spoonful of allspice, 2 table-spoonfuls of cinnamon, 1 nutmeg, 1 tea-spoonful of sweet almond meats blanched and cut in slices, 2 oz. of candied lemon, 2 oz. of

citron; a little molasses improves it, nearly a tea-cupful; flour the fruit, using that weighed out for the cake; put a half tea-spoonful of soda or 1 tea-spoonful of baking-powder with it on the fruit; bake 3 hours, slowly.

Frosting for Cake.—1 cup frosting sugar, 2 table-spoonfuls of water, boiled together; take it off the stove and stir in the white of 1 egg beaten to a stiff froth; stir all together well; then frost your cake with it, and you will never want a nicer frosting than this.

Cream Filled Cakes.—These delicious cakes are very easily made if care is taken to have the water boiling. Measure out one-half pt. and put in a small kettle; immediately after it comes to a boil again put in two-thirds of a cup of butter and 1 and one-half cups of flour; stir briskly for a moment, leaving it over the fire; remove this mixture and place in a dish where it will get entirely cold; beat 5 large fresh eggs very thoroughly, then stir in your cold mixture a spoonful at a time; stir it all until smooth and free from lumps; drop them upon a greased dripping-pan in small pear-shaped cakes; bake half an hour in a real hot oven; don't be afraid they will burn unless you see them doing so. When done they will be hollow inside, of a bright brown color; if not well done they will flatten. The oven must be hot when you put them in, and if kept so success is sure.

Filling or Cream: Put a little more than 1 pt. of milk in a pail and set it in boiling water; beat 2 eggs, two-thirds cup of corn starch, one full cup sugar, one-half tea-spoonful salt, and some vanilla, thoroughly together; add a full half cup of milk, and stir all into your boiling milk; it should be very thick; cut open your cakes near the bottom and fill very full of cream; be sure the cream is cold.

Ices.

Glittering squares of colored ice,
 Sweetened with syrups, tintured with spice ;
 Creams, and cordials, and sugared dates ;
 Syrian apples, Othmanee quinces,
 Limes and citrons and apricots,
 And wines that are known to Eastern princes.

* * * * * *

And all that the curious palate could wish,
 Pass in and out of the cedarn doors.—*T. B. Aldrich.*

Directions for Freezing.—Use 1 part of coarse table salt to 2 parts of ice broken into pieces about the size of a walnut. This should be firmly packed around the cream pail to the height of the freezer. For 3 pints of cream, $1\frac{1}{2}$ pints of water should be poured over the ice in the freezer, and for every additional quart of cream 1 pint of water should be added to the ice after packing. When there is no ice-cream freezer convenient, ices may be frozen by putting the cream to be frozen in a tin pail with a close cover. The ice and salt for packing may be put into a larger pail and packed firmly around the pail of cream to be frozen. Let this stand to chill for 20 or 30 minutes, then remove the cover and stir the freezing mixture within until stiff. Then repack, cover the whole closely with a woolen cloth or carpet and leave for an hour or two in a cool place.

Currant Ice.—1 pt. of currant juice, 1 lb. of sugar, and 1 pt. of water; put into freezer, and when partly frozen add the whites of 3 eggs well beaten.

Orange and Lemon Ices.—The rind of 3 oranges grated and steeped a few moments in a little more than a pint of water; strain one pint of this on a pound of sugar and

then add 1 pint of orange or lemon juice; pour into the freezer, and when half frozen add the whites of four eggs beaten to a stiff froth.

Strawberry Ice-Cream.—Mash with a potato pounder in an earthen bowl, 1 qt. of strawberries with 1 lb. of sugar, rub it through the colander and add 1 qt. of sweet cream and freeze. Very ripe peaches or coddled apples may be used instead of strawberries.

Ice-Cream.—1 pt. milk, yolks of 2 eggs, 6 oz. sugar, 1 table-spoonful corn starch; scald until it thickens; when cool, add 1 pt. whipped cream and the whites of 2 eggs beaten stiff. Sweeten to taste, flavor and freeze.

Preserving and Canning Fruits.

“Fruit of all kinds, in coat
Rough, or smooth rind, or bearded husk, or shell,
She gathers tribute large, and on the board
Heaps with unsparing hand.”—*Paradise Lost*.

Bring me berries, or such cooling fruit
As the kind, hospitable woods provide.—*Cowper*.

Fruits for preserving should be carefully selected, removing all that are imperfect. They are in the best condition when not fully ripe, and as soon as possible after they are picked. Small fruits should not be allowed to stand over night after they are picked when they are to be preserved. Use only the finest sugar for preserving. When fruit is sealed in glass cans, wrap paper of two or three thicknesses around the cans. The chemical action of light will affect the quality of the preserves when perfectly air-tight. With this precaution, glass cans are preferable to any other for

preserving fruit. One-half a pound of sugar to a pound of fruit, is a good rule for canned fruit, although many house-keepers use but one-quarter of a pound of sugar to a pound of fruit.

An excellent rule for canning the larger fruits, as peaches, pears, etc., is to place them in a steamer over a kettle of boiling water, first laying a cloth in the bottom of the steamer. Fill this with the fruit and cover tightly. Let them steam for 15 minutes, or until they can be easily pierced with a fork, (some fruits will require a longer time). Make a syrup of sugar of the right consistency. As the fruit is steamed, drop each for a moment into the syrup, place in the cans, having each one-half full of fruit, and fill up with the hot syrup, then cover and seal.

Preserved Peaches.—Select Peaches of fine quality and firm. If too ripe they are not likely to keep perfectly. Pare and place them in a steamer over boiling water and cover tightly; an earthen plate placed in the steamer under the fruit will preserve the juices which afterward may be strained and added to the syrup. Let them steam for 15 minutes or until they can be easily pierced with a fork; make a syrup of the first quality of sugar, and as the fruit is steamed, drop each peach into the syrup for a few seconds, then take out and place in the cans; when the cans are full, pour the hot syrup over the fruit, and seal immediately. Inexperienced house-wives will do well to remember that the syrup should be well skimmed before being poured over the fruit. We prefer the proportions of half a pound of sugar to a pound of fruit for canning, although many excellent house-keepers use less. This rule is excellent for all the large fruits—as pears, quinces, apples, etc.

Preserved Pears.—To 6 lbs. of pears, 4 lbs. of sugar, 2 coffee cups of water, add the juice of 2 lemons, and the rind of 1, a handful of whole ginger; boil all together for 20 minutes, then put in your pears and boil till soft, say about a quarter of an hour. Take them out and boil your syrup a little longer. Then put back your fruit and give it a boil; bottle while hot, adding a little cochineal to give it a nice color.

Preserved Apples.—Weigh equal quantities of good brown sugar and apples; peel, core, and cut the apples into small square pieces; make a syrup of 1 pt. of water to 3 lbs. of sugar, boil until pretty thick, then add the apples, the grated peel of a lemon or two, a little whole white ginger (if liked); boil until the apples are clear and begin to fall.

Preserved Cherries.—Stone the fruit, weigh it, and for every pound take three-fourths pound sugar. First dissolve the sugar in water in the proportion of 1 pt. of water to 1½ lbs. of sugar; then add the fruit and let it boil as fast as possible for half an hour, till it begins to jelly. As soon as it thickens put into pots, cover with brandied paper, next the fruit, and then cover closely from the air.

Canned Cherries.—Prepare in the same manner, allowing but half a pound of sugar to a pound of fruit; after putting the fruit into the syrup let it scald (not boil hard) for 10 or 15 minutes, and then can and seal. A few of the cherry stones tied in a muslin bag and put into the syrup to scald with the fruit, impart a fine flavor; they should not be put into the jars with the fruit. This method is excellent for use with all the small fruits, as strawberries, raspberries, and also plums.

Canned Strawberries.—After the berries are pulled, let as many as can be put carefully into the preserving kettle at

once, be placed on a platter. To each pound of fruit add three-fourths of a pound of sugar; let them stand 2 or 3 hours, till the juice is drawn from them; pour it into the kettle and let it come to a boil, removing the scum which rises; then put in the berries very carefully. As soon as they come to a boil, put them into warm jars, and seal while boiling hot.

Quince Preserves.—Pare, core, and quarter your fruit, then weigh it and allow an equal quantity of white sugar. Take the peelings and cores and put into a preserving kettle; cover them with water and boil for half an hour; then strain through a hair sieve and put the juice back into the kettle and boil the quinces in it a little at a time until they are tender; lift out as they are done with a drainer and lay on a dish; if the liquid seems scarce, add more water. When all are done throw in the sugar and allow it to boil 10 minutes before putting in the quinces; let them boil until they change color, say $1\frac{1}{4}$ hours, on a slow fire; while they are boiling, occasionally slip a silver spoon under them to see that they do not burn, but on no account stir them. Have two fresh lemons cut in thin slices, and when the fruit is being put in jars, lay a slice or two in each.

Canned Tomatoes.—Wash your tomatoes, and cut out any places that are green or imperfect; then cut them up and put over to cook with a little salt; boil them till perfectly soft, then strain through a colander; turn them back to cook, and when they have come to boiling heat, pour them into stone jugs (one or two gallon jugs, as you prefer). They will keep a day or two in winter if all are not used at a time; put the cork in, and have some canning cement hot and pour over the cork. The jug must, of course, be hot when the tomatoes are poured in.

Artificial Honey.—Mix together 10 lbs. white sugar, 2 lbs. clear bees' honey, 1 qt. hot water, half an ounce of cream tartar; when cool, flavor with 2 or 3 drops otto of roses and sprinkle in a handful of clear yellow honey-comb broken up. This will deceive the best judges, and is perfectly healthful.

Grape Jam.—Take your grapes, separate the skin from the pulp, keeping them in separate dishes, put the pulps into your preserving kettle with a tea-cup of water; when thoroughly heated run them thorough a colander to separate the seeds; then put your skins with them and weigh; to each pound of fruit, put three-fourth of a pound of sugar; add merely water enough to keep from burning; cook slowly three-fourths of an hour. This is a delicious jam, and worth the trouble.

Blackberry Jam.—To each pound of fruit add three-fourths of a pound of sugar; mash each separately; then put together and boil from one-half to three-fourths of an hour.

Raspberry Jam.—To 5 or 6 pounds of fine red raspberries (not too ripe) add an equal quantity of the finest quality of white sugar. Mash the whole well in a preserving kettle; add about 1 qt. of currant juice (a little less will do), and boil gently until it jellies upon a cold plate; then put into small jars; cover with brandied paper; and tie a thick white paper over them. Keep in a dark, dry, and cool place.

Orange Marmalade.—Take 7 oranges and 5 lemons; boil in water 2 or 3 hours; throw away the water, and open the oranges and lemons, taking out the seeds and preserving all the pulp and juice possible; cut the rinds in small strips or

chop them, but cutting in strips is better; weigh it all when this is done; then put 3 lbs. of sugar in 2 of the pulp, and boil slowly till clear.

Siberian Crab Jelly.—Boil a peck of crab-apples for 2 hours in as much water as will cover them, then put them into a jelly bag and allow to drain, (do not squeeze them); to each pint of syrup, put 1 lb. of loaf sugar, and boil for half an hour. Select the reddest crabs you can find, and the jelly will be a beautiful color.

Chocolate Caramels.—2 cups of brown sugar, 1 cup molasses, 1 cup chocolate grated fine, 1 cup boiled milk, 1 table-spoonful flour, butter the size of a large English walnut; let it boil slowly and pour on flat tins to cool; mark off while warm.

Beverages.

The bubbling and loud hissing urn,
Throws up a steaming column; and the cups
That cheer, but not inebriate, wait on each;
So let us welcome peaceful evening in.

—Cowper.

Tea.—When the water in the tea-kettle begins to boil, have ready a tin tea-steep; pour into the tea-steep just a very little of the boiling water, and then put in tea, allowing one tea-spoonful of tea to each person. Pour over this boiling water until the steep is a little more than half full; cover tightly and let it stand where it will keep hot, but not to boil. Let the tea infuse for 10 or 15 minutes, and then pour into the tea urn, adding more boiling water, in the proportion of one cup of water for every tea-spoonful

of dry tea which has been infused. Have boiling water in a water-pot, and weaken each cup of tea as desired. Do not use water that has boiled long. Spring water is best for tea, and filtered water next best.

Tea a la Russe.—Pare and slice fresh, juicy lemons; lay a piece in the bottom of each cup, sprinkle with white sugar, and pour hot, strong tea over. Or the lemon may be sent around in slices with the peel on. No cream is used.

Roasting Coffee.—This process should be carefully watched and superintended. The quality and flavor of the coffee depends largely upon the method of roasting. When the berry crackles and becomes crisp, it is sufficiently roasted. Just as soon as it is taken from the roaster, it should be placed in several thicknesses of flannel to preserve the oil and aroma. When cool, place it in an air-tight cannister.

Cream Nectar.— $2\frac{1}{2}$ lbs. of white sugar, one-eighth lb. of tartaric acid, both dissolved in 1 qt. of hot water; when cold, add the beaten whites of 3 eggs, stirring well; bottle for use. Put 2 large spoonfuls of this syrup in a glass of cold water, and stir in it one-fourth of a spoonful of bicarbonate of soda. Any flavor can be put in the syrup. An excellent drink for summer.

Raspberry Acid.—Dissolve 5 oz. of tartaric acid in 2 qts. of water; pour it upon 12 lbs. of red raspberries in a large bowl; let it stand 24 hours; strain it without pressing; to 1 pt. of this liquor add $1\frac{1}{2}$ lbs. of white sugar; stir until dissolved. Bottle, but do not cook for several days, when it is ready for use. Two or three table-spoonfuls in a glass of ice water will make a delicious beverage.

Raspberry Vinegar.—To 4 qts. red raspberries, put

enough vinegar to cover, and let them stand 24 hours; scald and strain; add 1 lb. of sugar to 1 pt. of juice; boil it 20 minutes, and bottle; it is then ready to use and will keep for years. To one glass of water add a great spoonful. It is much relished by the sick. Very nice.

Blackberry Syrup.—To 1 pt. of juice, put 1 lb. of white sugar, one-half oz. of powdered cinnamon, one-fourth oz. mace, and 2 tea-spoonfuls cloves; boil all together for 15 minutes, then strain the syrup, and add to each pint a glass of French brandy.

Red Currant Wine.—For every gallon of water take 1 gallon of currants off the stalks, bruise well and let them stand over night. Next morning mash them well with your hands and strain through a hair sieve. To every gallon of the liquor add 4 lbs. of sugar. Rinse the cask well with brandy, and strain the liquor again when putting in, by which you will see whether the sugar is dissolved. Lay the bung lightly on, and stop it up in 10 days.





THE ART OF GIVING DINNERS.



It has been said that the social progress of a community is in exact proportion to the number of its dinner parties; and in all ages the friendship of nations, as well as of individuals, has been cemented, and enmities forgotten, in the allurements of dining. It is an undeniable fact that more enduring alliances have been struck by diplomatists across the dinner table than were ever agreed upon in ministerial cabinets. Talle-
rand regarded the dinner table as the best place for the transaction of diplomatic business. And can any one doubt that much of the culture of the world, with all its elements of refined manners, intellectual progress, and taste for science, literature, and the fine arts, is largely dependent upon the social gatherings at the dinner tables of the metropolitan cities?

The rules which regulate dinner giving and dining in America, have been adopted from both England and France,

as they have been found to fit our social conditions; and the dinner giver who attempts to be original is likely to fail, because he disturbs the harmony which established customs insure. The path of safety here, as in all social matters, is the beaten track.

The first consideration, when a dinner has been decided on, is a discreet selection of guests. The proper limit as to numbers will be decided by the good sense of the host and hostess, the size of the table and dining-room being important considerations, though the number of guests should not exceed twelve. Thirteen is an ominous number, and there are superstitious people who would not sit at the table when thirteen were present, from the belief that some fatality might soon happen to one of their number.

The aim of the host and hostess should be to bring together such people as are of equal intellectual attainments, and of like social standing. Guests are wanted who will affect each other pleasantly. They need not be friends, nor even acquaintances, but they must be congenial, and have common tastes and sympathies. Good talkers are invaluable, and good listeners no less so. The test of the success of a dinner party is the manner in which the conversation is sustained at the table. A constant flow of talk and merriment is proof that the guests have been wisely chosen, while embarrassing halts and dead pauses in conversation denote that they are not in sympathy with one another.

The invitations are issued in the name of the host and hostess from three to ten days in advance. They are sent by messenger, and not by mail, only when the distance is too great to send a trusty servant. An invitation to a dinner party requires a prompt answer, and if it is accepted

the engagement must be sacredly kept, as the non-arrival of a guest means an empty chair at the table, a lady without an escort, or a gentleman without a lady. If in doubt, it is better to decline; but if an invitation has been accepted, and an insurmountable obstacle intervenes, an explanation must be made at once, so that the vacant place in the little circle may be filled.

The following is the form of the invitation:—

Mr. and Mrs. William Preston
request the pleasure of Mr. and Mrs. Howard Sinclair's
company at dinner, on Wednesday, Jan-
uary 26, at seven o'clock.

23 Lafayette Avenue.

The day of the week and the hour are written in full, but figures may be used for the day of the month.

If the dinner is given in honor of some friend or stranger, a second card is inclosed in the envelope with the invitation on which is inscribed:—

To meet
Mr. Benjamin Wither,
of New York City.

The following is a good form for an acceptance, which must be sent immediately:—

Mr. and Mrs. Howard Sinclair

*accept with pleasure the invitation of Mr. and Mrs.
William Preston, to dinner, at seven o'clock,
on Wednesday, January 26.*

If the invitation cannot be accepted, the persons invited send a reply immediately with regrets, and state reasons of their inability to accept, which may be either on account of sickness in the family, intended absence, or some previous engagement.

Guests may arrive any time during the half hour before the time appointed for dinner. This interval gives time for introductions and greetings. To delay beyond the appointed hour is unpardonable rudeness. Fifteen minutes is the longest time a hostess is required to wait for a tardy comer.

She is an excellent hostess who can make conversation general before dinner. "To this end," says one writer, "have some novelty at hand, either in the shape of a personage whom every guest wants to meet, or a new picture, *bric-a-brac*, a rare plant, the latest spiciest news to tell, or a pretty girl to bring forward." "Whatever the attraction, present it early, to prevent monotony, and if the half or quarter hour before the guests assemble around the table can be so used as to bring them upon easy terms with one another, the success of the dinner, in a social way, is more than half established."

Among her other duties, the hostess has taken into consideration the arrangement of her guests at the table, with a view of having them paired off to their mutual advantage and to the pleasure of all concerned, so that when dinner is announced the host and hostess quietly intimate to the different gentlemen whom they are to escort to the table. "Mr. Power, will you be so kind as to escort Miss Strong to dinner? Mr. Sharp, please look after the interests of Mrs. Keene, and Mr. Keene, you may do the agreeable to Mrs. Sharp, that will be a keen sharp trade all around. Mr. Wright, suppose you finish telling that little story to Miss Straight at the table," and so on. If the dinner is given in honor of some lady guest, the host offers her his arm and goes out first, and the hostess last. On the other hand, if the honored guest be a gentleman, he escorts the hostess, and they lead the way, and the host follows the company. The hostess having already arranged the places at the table for each guest, and placed a card with the name written upon it, on each of the plates, the guests have no difficulty in finding their respective seats at table. This method is now used at private dinners, having long been the custom at public dinners.

The gentleman offers his right arm to the lady he escorts to dinner, and seats her on his left hand at the table. On reaching their places, he draws out the chair for her, and allows her to be seated before he seats himself. The honored guest, if a lady, is seated at the right of the host; if a gentleman, at the right of the hostess. It becomes the duty of each gentleman to see that the lady he escorts to the table is well provided for, and where food is passed around from guest to guest, to allow her to be helped before he helps himself.

Table decorations should not be used to a great extent, but should be choice, when used at all. Flowers should be fine but few, for to some people the odor of flowers does not mingle pleasantly with that of the food before them.

It must not be supposed that dinners must be costly and elaborate to be enjoyable, nor will guests expect that a dinner will be other than commensurate with the circumstances of the host and hostess. Costly dinners are not necessarily good dinners, while the surroundings may be so agreeable and cheerful, the table so tastefully spread, the welcome so frank, and the conversation so bright that a very simple dinner is indeed charming, and affords the utmost pleasure to hostess, host, and guests alike.

No dinner should be considered complete without at least three courses, which may be classed as: First, soups; second, meats; and third, dessert of pastry or puddings. This may be easily doubled up, having for the first course, a small dish of raw oysters, or clams; second, soup or boiled fish; third, meats; fourth, salads; fifth, pastry and puddings; sixth, ices, fruits, nuts, and raisins, with coffee. Before the dining-room is opened, half a dozen raw oysters are placed in a small dish before each plate. If the season is warm, they may be placed on cracked ice, with a quarter of a lemon to each plate. When oysters are not in season, small clams may be substituted, in which case red pepper should be provided. These may be eaten after the party have seated themselves for dinner. A dish of soup or of boiled fish, or both, may then be served. The dishes in which these are served being removed, the meats may be served, together with the vegetables and substantials, and they are either roast beef, mutton, or turkey. These may

be followed by boiled meats. As a rule, the roast precedes the boiled, next come the salads and *entrees*, and then follow the pastry or puddings, and finally, ices, fruits, nuts, raisins, candy, and coffee. If it should be a game dinner, the game may take the place of the meats in the third course. This bill of fare may be varied according to inclination or circumstances. Should the host and hostess desire to include wines in their bill of fare, it would be well to remember that Sauterne, or any light white wines should come with the oysters before soup, Sherry after soup, and that Champagne comes with the roast. If wine is brought on for a dessert, champagne is preferable.

There are two methods of serving a dinner, the French and Russian. The former is the ordinary way, the various dishes being set on the table to be carved and served by the host and hostess, and passed to the guests, or handed to them by a servant. The Russian method, which is often adopted for formal dinners, is for waiters to serve each guest separately, all the carving, etc., being done before the food is brought to the table. By this method more servants are required, and it gives a better opportunity for the decoration of the table, if that is desirable. The English custom is to set all the dishes of each course on the table at once, and then those that are to be carved are removed to a side table and carved by a skillful servant. The advantages of the Russian custom is that it leaves host and hostess almost as free as the guests to guide and take part in the conversation.

As the main object of giving a dinner party is enjoyment and pleasure for all concerned, it is incumbent upon all to be in their happiest mood, and for each to do his or

her part in rendering the occasion as delightful as possible. Lively and sprightly conversation, and cheerful ways are especially desirable, and when each endeavors to make all others happy about him, the sociable feature of the dinner is not likely to prove a failure. Ill-nature should never be brought to a dinner table, and any display of it is a mark of ill-breeding. It is not in good taste for two persons to monopolize the conversation by a discussion in which few or none of the other guests are interested. The conversation should be of a nature to be of interest to all, or the great majority, so that each may enter into its spirit. If the dinner party is a large one you may converse with those near you in a low tone of voice. The hostess should endeavor to put all her guests at their ease, paying every attention to the wants of all, so far as possible. She needs self-possession and tact so that she may anticipate every want. It is the duty of the host to aid her as far as possible, and to endeavor to encourage the timid, draw out the silent, and direct the conversation, while others sustain it.

The table-cloth must be white and spotless, and under it should be spread a thick baize or other cloth to prevent the noise of dishes. Napkins should be of fine texture, but firm and folded square. The dishes should be free from nicks and scrupulously clean. Flowers, when not used in great profusion, are the most tasteful ornaments for the table. Fruit, tastefully arranged, may also be used to assist in the table decoration.

When the dinner is served up in the ordinary way the plates and the dishes to be served are placed before the host or hostess. When each dish is served into the plate, it is placed upon the waiter's small salver, who sets it before the

guest. If a second dish is served in the same course, the waiter presents the dish, having first put into it a spoon, to the left of the guest, who helps himself. As soon as any one has finished his plate, it is removed, without waiting for the others to finish. When all the plates are removed, the next course is brought on. The crumb-brush is not used until just before the dessert, and after that is served, the waiter whose services are no longer needed, leaves the room. In serving, the most honored guest, that is the lady at the right of the host, should be first helped.

At a dinner party, great care should be taken that the food be served neatly; the plates should not be helped too abundantly or the food flooded with gravies, which many dislike. To some people it is disagreeable to have a plate bedaubed with gravy or scattered food. Food is passed to a guest from the left, but water is poured at the right of a guest. Each guest should have ample space at the table so that he may eat without crowding, or being crowded by, his neighbor. Consequently it is important for the success of the dinner that no more be invited than can be comfortably accommodated.

Manners at the Table.

While individual manners at the table require a kind consideration for the rights and feelings of others which marks the true gentleman, there are details of behavior which deserve mention.

Raw oysters must be eaten with a fork. Soup should be sipped from the side of the spoon and without noise. A

soup plate should never be tilted for the last spoonful, and it should not be called for a second time. Fish should be eaten either with the fork, or a fish-knife. Salads, cheese, pastry, and everything that can be cut or broken without a knife should be eaten with a fork. A knife should never be put into the mouth during a meal. Bread should be broken, never cut at the table. Turkey, chicken, and game are cut up, never picked with the fingers, unless in the indulgence of a family dinner, when the bone may be held in one hand and picked. Salt must be taken on the side of the plate and never upon the table-cloth. The fork conveys food to the mouth and may be used in either hand, as most convenient. Food that cannot be handled with a fork should be eaten with a spoon. To help yourself to butter or any food from a common dish, with your own knife or fork, is a gross offense. It is exceedingly impolite to pick the teeth at the table, or in the presence of ladies after a meal. If it is necessary to use a tooth-pick at the table, it is done while the napkin is held over the mouth. Avoid making any sound with the mouth while eating or chewing food. Eat slowly, both for the sake of health and good manners, and do not take so large a mouthful that you find it difficult or impossible to speak. Do not lean the elbows or lay the hands on the table, or play with knives and forks or glasses, or lounge in, or tilt back, your chair, or take a lounging attitude at the table. When you have finished a course, lay your knife and fork side by side on the plate, which is the signal for their removal. Never dip bread into gravy or preserves.

Refuse fish if you wish, but do not call for it a second time. When soup is passed as the first course, never refuse

it, but you need not partake of it unless you wish to. Never apologize to a waiter for asking him for anything; it is his business to serve. Never rebuke a waiter, as that is the business of the host. When dishes are passed by one guest to another, help yourself before offering it to the next, as it makes confusion and delay to do otherwise. Never use the napkin to wipe your face or nose. It is for the lips only. Do not scrape your plate, or tilt it up to get the last drop, or wipe it with a piece of bread. Pudding may be eaten with a fork or spoon as is most convenient. Ices require a spoon.

It is rude to monopolize the conversation at the table, or to talk or laugh loud. Boisterous conduct is particularly ill-mannered at the table. If a special delicacy has been prepared by the hostess for the dinner, which a guest does not care for, or which his health will not permit him to eat, he may take a portion of it on his plate and eat as much or as little of it as he pleases. To refuse it might be to injure the feelings of your hostess. It is not regarded in good taste to say much about the food, either in praise or disparagement. If one is obliged to leave the table before a meal is finished, he should ask the hostess to excuse him. Bread should be held on the plate or near the table, while it is buttered, and it should be broken, and not bitten into. The general rule is that nothing should be bitten at the table.

One should not sit too near the table, nor too far from it, nor drum with his fingers, nor make diagrams with his knife and fork, nor twirl his goblet, nor play with his salt-cellar, nor cough, sneeze, or smack his lips, nor put his elbows on the table, nor fidget in his chair, nor blow in his soup to cool it, nor soak up gravy with his bread. If a

plate is handed you at table, keep it, unless you are requested to pass it to another. The host knows whom he wishes to serve first. As soon as you receive your plate, you are at liberty to begin eating without waiting until all others are served, as is often done. An apple may be held in the hand while paring, and eaten in small slices cut from the whole fruit, carrying each slice to the mouth on the point of a fruit knife. Never bite into an apple at the table.

In cases where a person is in doubt just what to do, or how to act at table, it would be well to conform to the usage of those around him, for it is almost impossible to give rules or suggest hints to apply to all cases and all circumstances into which a person may be thrown.

Table Talk.

We have presented some rules regarding the preparation and serving of a formal dinner. In every well-regulated family the table should be prepared daily with the same care, if not so elaborate, as for such an occasion. This is a good way to insure success for hostess and servants when a dinner party does come off, while it gives the mistress and servants the luxury of becoming used to a nice style, so that it is just as easy as common ways, and no sudden visitor can put them out. In the family it should be observed as a rule to meet together at all meals of the day around one common table where the same rules of etiquette should be as rigidly enforced as at the table of a stranger. It is only by the constant practice of the rules of good society at home that good manners become easy when any of them are invited out to meet strangers.

At the breakfast table, a greater amount of freedom is allowable than at the other meals of the day. Some members of the family require to be off at an early hour. Thus all may not be able to meet together, and each may rise and leave the table when business or pleasure dictate. The mistress serves the coffee, and the master of the house the meats, potatoes, etc. Whenever practicable, it is well to serve fruits at breakfast, and they should be served first, followed by oat-meal, or wheaten grits, then the meats and vegetables, with toast, hot cakes, and coffee.

The last meal of the day, supper or "tea," is the simplest of the three, and meats are mostly served cold, while the nicest delicacies of cookery are served up.

In some sense, housekeeping is making the most of life, bringing taste and variety into it, compassing difficult ends with invention. Those who disdain it lower themselves. Never think that any thing is too good for you or yours that you can obtain. Everywhere there are people living in small common ways, because they are absolutely afraid of the expense or the notice which a pleasanter life would bring. Half the niceties of life involve only care to secure them, without a dollar of expense. Good manners cost nothing, good taste is a saving, and good housekeeping actually makes money. People grow refined first in their eating. How is it that the most brilliant and clever nation in the world has also the best cooking? Put these things together, and do your best according to their result.

We present the following Bills of Fare for various meals, which may be found of value to our readers:—



BILLS OF FARE.

FAMILY BREAKFAST.

Oatmeal.	Buttered Toast.	Beefsteak.
Potatoes.	Hominy.	
Stewed Apples.	Buckwheat Cakes.	Sirup.
Coffee.	Chocolate.	

BREAKFAST PARTY.

Fruits in Season.	Broiled Fish.	Potatoes.
Home Rolls.	Beefsteak.	
Egg Omelet.	Graham Gems.	Celery and Lettuce.
Fried Oysters.	Cream Nectar.	
Coffee.	Ices.	

FAMILY DINNER.

Soup with Vegetables.	Roast Meats.	Apple Sauce.
Potatoes.	Turnips.	
Cabbage.	Tomatoes.	Pudding.
Pie.	Fruits.	
Cheese.	Coffee.	Ices.

DINNER PARTIES.

Raw Oysters.	Soup with Vegetables.	Boiled White Fish.
	Roast Turkey with Cranberry Sauce.	
Mashed Irish Potatoes.	Baked Sweet Potatoes.	
	Croquettes of Rice.	

DESSERT.

Cream Custard.	Lemon Pie.	Cocoanut Pie.
Fruits.	Nuts.	Coffee. Ices.

TEA.

Tea, Coffee, or Chocolate.	Escalloped or Fried Oysters.
Muffins.	Sliced Turkey and Ham. Cold Biscuits.
Sardines and Sliced Lemons.	Thin Slices of Bread Rolled.
Sliced Pressed Meats.	Cake in Variety.

SUPPER No. 1.

Cold Roast Turkey or Chicken.	Ham Croquettes.
Fricasseed Oysters.	Charlotte Russe.
Whipped Cream.	Chocolate Cake.
	Cocoanut Cake.
Mixed Cakes.	Fruit in Season.
Ices.	Coffee and Chocolate.

SUPPER No. 2.

Cold Roast Fowl.	Oyster Patties.	Cold Boiled Ham.
Raw Oysters.	Ham Sandwiches.	
Jelly.	Ice-Cream.	Cakes.
Assorted Fruits.	Chocolate.	Coffee.

ECONOMICAL DINNERS.

SUNDAY.—Roast Beef, Potatoes, and Greens. *Dessert:*
 Pudding or Pie, Cheese.

MONDAY.—Hashed Beef, Potatoes, and Bread Pudding.

TUESDAY.—Broiled Beef, Vegetables, Apple Pudding.

WEDNESDAY.—Boiled Pork, Beans, Potatoes, Greens,
 and Pie or Rice Pudding.

THURSDAY.—Roast or Broiled Fowl, Cabbage, Potatoes,
 Lemon Pie, Cheese.

FRIDAY.—Fish, Potato Croquettes, Escalloped Tomatoes, Pudding.

SATURDAY.—*A la mode* Beef, Potatoes, Vegetables, Suet Pudding, Mince Pie, and Cheese.

A

COMPLETE INDEX

TO



OUR HOMES AND THEIR ADORNMENTS.



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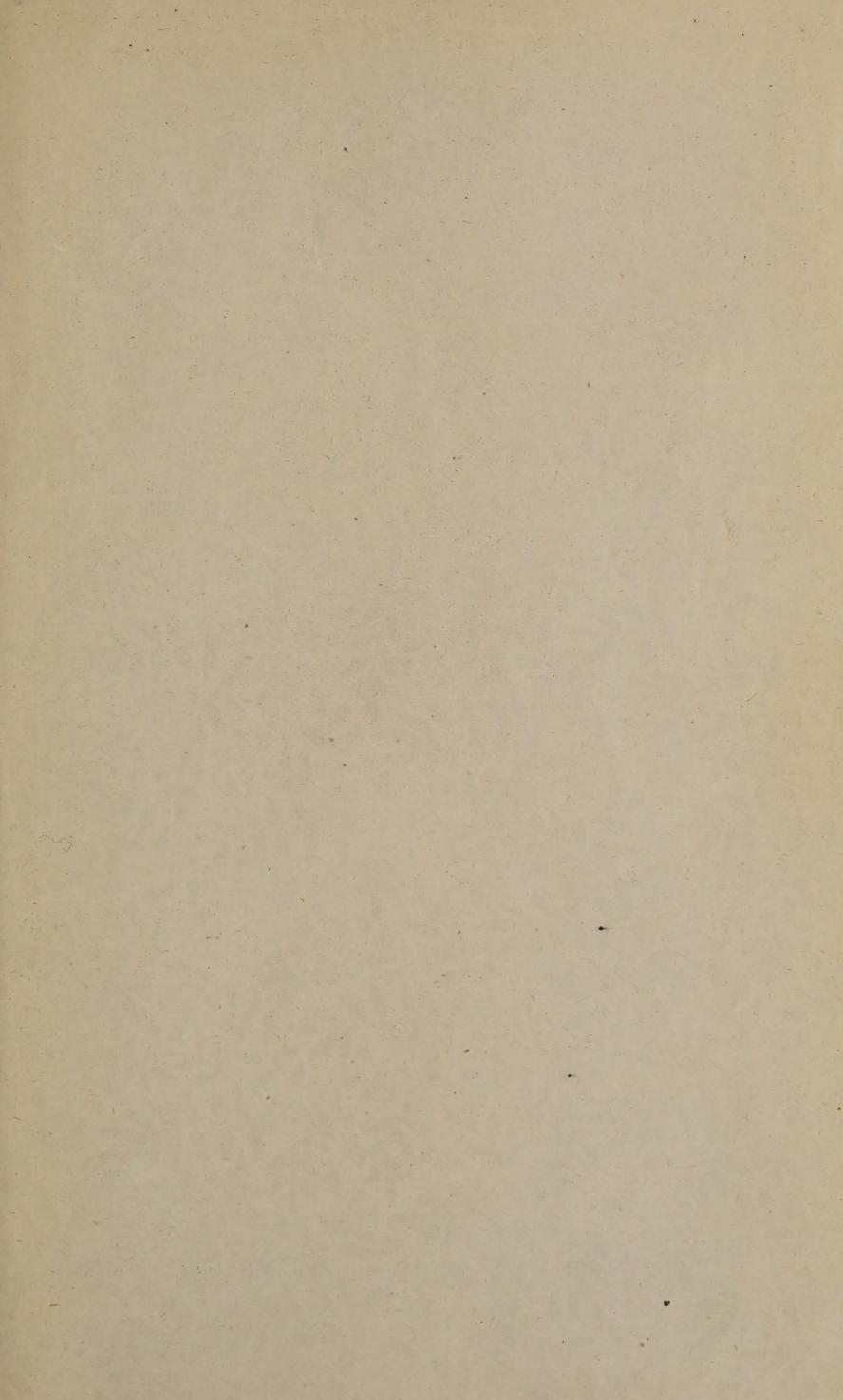
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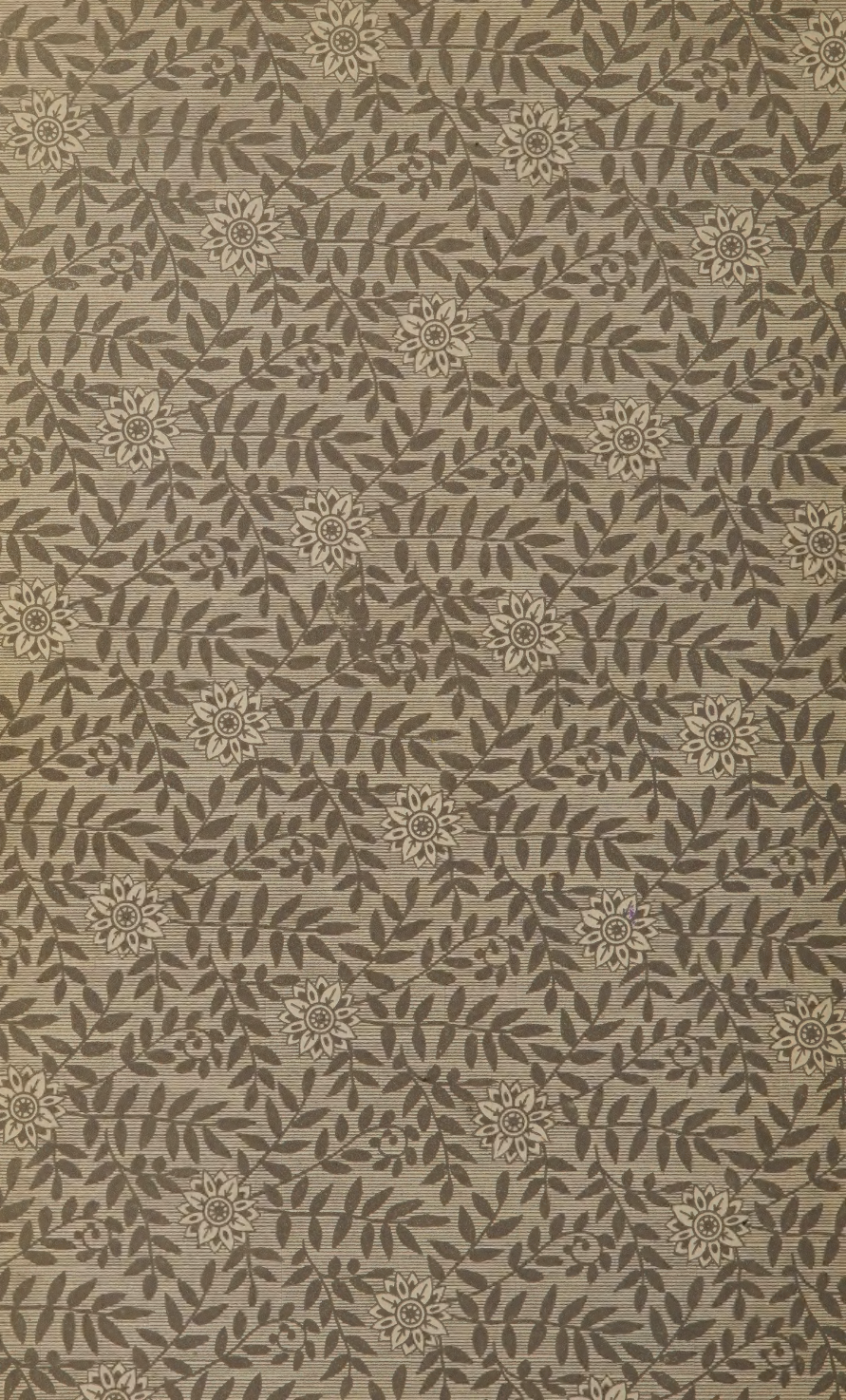
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